Interim Seismic Retrofit-Roadway Plans (Contract No. 04-043004)

The as-built drawings, which are contained in these CDs, are scanned from drawings of the existing structure for the convenience of the contractor and as a means to convey to the contractor the available information regarding the existing structure. It is to be understood that no claim is being made as to the accuracy or completeness of the said information and that the State of California or its officers or agents shall not be responsible for the manner in which the contractor interprets and uses this information or for the accuracy, currency or completeness of these scanned as-built drawings. The contractor shall be responsible to obtain, at the contractor's expense, any additional information that the contractor deems necessary for completely and accurately assessing the existing conditions of the structure. The contractor shall not be entitled to any compensation for any claim arising from inaccuracy or insufficiency of these as-built drawings or in anyway related to these drawings.

DIST	COUNTY	ROUTE	POST MILE TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	1	205

INDEX OF SHEETS

STATE OF CALIFORNIA

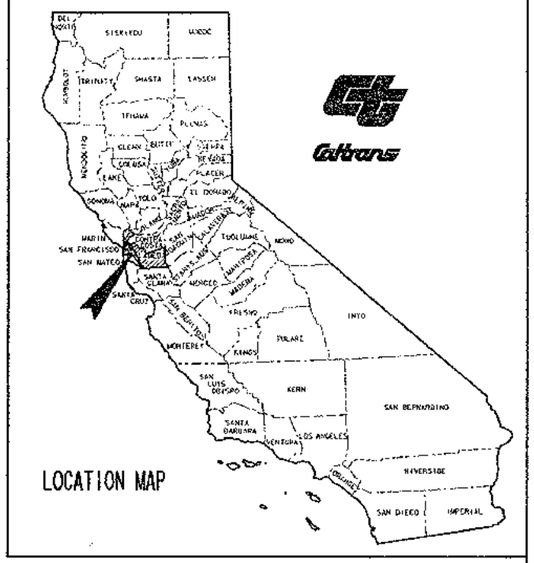
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR CONSTRUCTION ON

STATE HIGHWAY

IN THE CITY AND COUNTY OF SAN FRANCISCO AND IN ALAMEDA COUNTY IN OAKLAND ON THE SAN FRANCISCO-OAKLAND BAY BRIDGE

To be supplemented by Standard Plans dated July, 1992



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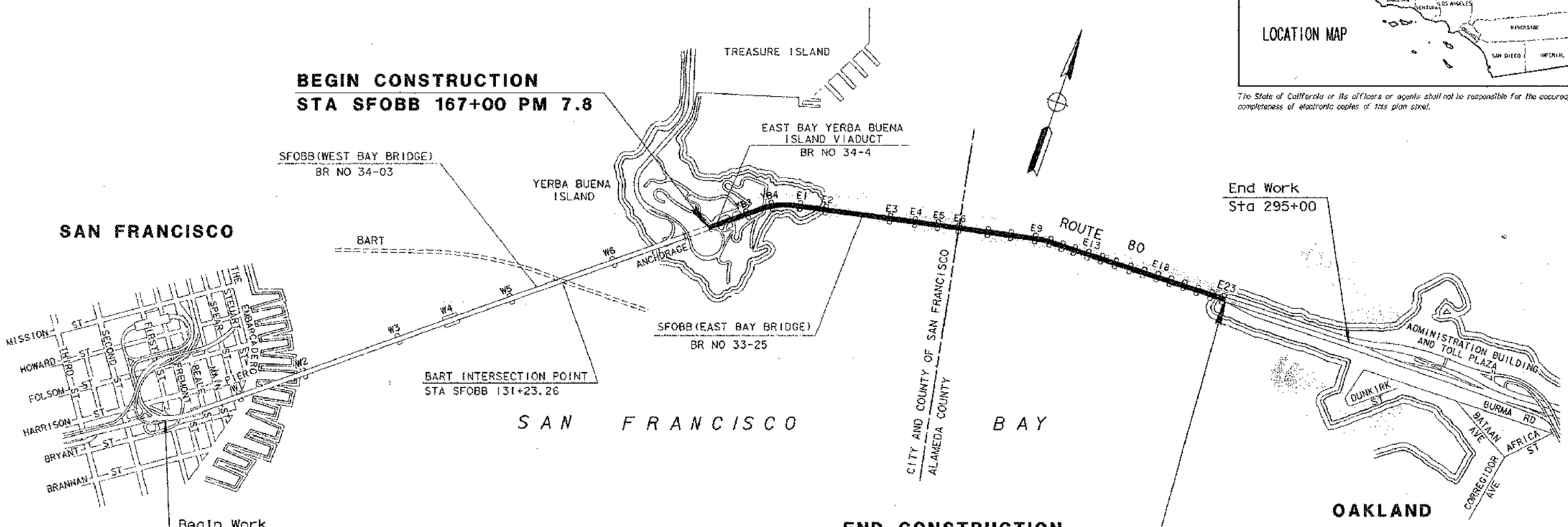

K. Greve 10-10-97
Project Engineer Date
Registered Civil Engineer

REGISTERED PROFESSIONAL ENGINEER K. Greve No. 53266 Exp. 6-30-99 CIVIL STATE OF CALIFORNIA

December 8, 1997
Plans Approval Date

The Contractor shall possess the Class (or classes) of license as specified in the "Notice to Contractors".

PROJECT ENGINEER: KATJA GREVE
PROJECT MANAGER: STEVEN HULSEBUS
DATE:

LAST REVISION 10-23-97 DATE PLOTTED => 08-Dec-1997 TIME PLOTTED => 14:29

Contract No. 04-043004

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME => trrichf

CU 04249 EA 043001

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	04	SF, Ala	80	7.8/8.9, 0.0/1.1	3	205

To accompany plans dated 12-8-97

OVERHEAD SIGNS

OVERHEAD SIGNS-TRUSS

- ☐ S1 Overhead Signs- Truss, Instructions and Examples
- ☐ S2 Overhead Signs- Truss, Single Post Type, Post Type II thru VII
- ☐ S3 Overhead Signs- Truss, Two Post Type, Post Type I-S thru VII-S
- ☐ S4 Overhead Signs- Truss, Single Post Type, Structural Frame Members
- ☐ S5 Overhead Signs- Truss, Two Post Type, Structural Frame Members
- ☐ S6 Overhead Signs- Truss, Structural Frame Details
- ☐ S7 Overhead Signs- Truss, Frame Juncture Details
- ☐ S8A Overhead Signs- Steel Frame Removable Sign Panel Frames
- ☐ S8B Overhead Signs- Removable Sign Panel Frames, Overhead Formed Panel Mounting Details
- ☐ S8C Overhead Signs- Truss, Sign Panel Mounting Details, Laminated Panel- Type A
- ☐ S8D Overhead Signs- Truss, Removable Sign Panel Frames 110" and 120" Sign Panels
- ☐ S9 Overhead Signs- Walkway Details No. 1
- ☐ S10 Overhead Signs- Walkway Details No. 2
- ☐ S11 Overhead Signs- Walkway Safety Railing Details
- ☐ S13 Overhead Signs- Truss Pile Foundation

OVERHEAD SIGNS-LIGHTWEIGHT

- ☐ S14A Overhead Signs- Lightweight Balanced-Single Steel Post Connection and Mounting Details
- ☐ S14B Overhead Signs- Lightweight Balanced-Single Steel Post Details
- ☐ S15 Overhead Signs- Lightweight, Type A, Connection Details
- ☐ S16 Overhead Signs- Lightweight, Type B, Connection Details
- ☐ S17 Overhead Signs- Lightweight, Type C, Connection Details
- ☐ S18A Overhead Signs- Lightweight, Sign Panel Mounting Details, Laminated Panels- Type A
- ☐ S18B Overhead Signs- Lightweight, Light Fixture Mounting Details
- ☐ S20A Overhead Signs- Lightweight Post Details
- ☐ S20B Overhead Signs- Lightweight Foundation

OVERHEAD SIGNS-BOX BEAM CLOSED TRUSS ALTERNATIVE

- ☐ S39 Overhead Signs- Box Beam, Closed Truss Foundation
- ☐ S40A Overhead Signs- Box Beam, Closed Truss, Two Post Type Frame Members
- ☐ S40B Overhead Signs- Box Beam, Closed Truss, Single and Two Post Type General Frame Details
- ☐ S40C Overhead Signs- Box Beam, Closed Truss, Ribbed Sheet Metal Details
- ☐ S40D Overhead Signs- Box Beam, Closed Truss, Two Post Type Frame Details
- ☐ S40E Overhead Signs- Box Beam, Closed Truss, Two Post Type Frame Juncture Details
- ☐ S40F Overhead Signs- Box Beam, Closed Truss, Two Post Type Post Details
- ☐ S40G Overhead Signs- Box Beam, Closed Truss, Single Post Type Frame Members
- ☐ S40H Overhead Signs- Box Beam, Closed Truss, Single Post Cantilever Frame Details
- ☐ S40I Overhead Signs- Box Beam, Closed Truss, Single Post Cantilever Frame Juncture Details
- ☐ S40J Overhead Signs- Box Beam, Closed Truss, Single Post Cantilever Post Details
- ☐ S40K Overhead Signs- Box Beam, Closed Truss, Single Post Butterfly Frame Details
- ☐ S40L Overhead Signs- Box Beam, Closed Truss, Single Post Butterfly Frame Juncture Details
- ☐ S40M Overhead Signs- Box Beam, Closed Truss, Single Post Butterfly Post Details

OVERHEAD SIGNS-TUBULAR

- ☐ S40N Overhead Signs- Tubular, Instructions and Examples
- ☐ S40P Overhead Signs- Tubular, Single Post Type Layout and Pipe Selection
- ☐ S40Q Overhead Signs- Tubular, Two Post Type Layout and Pipe Sections
- ☐ S40R Overhead Signs- Tubular, Structural Frame Details No. 1
- ☐ S40S Overhead Signs- Tubular, Structural Frame Details No. 2
- ☐ S40T Overhead Signs- Tubular Foundation Details

SIGNALS, LIGHTING AND ELECTRICAL SYSTEMS

- ☐ ES-1A Signal, Lighting and Electrical Systems- Symbols and Abbreviations
- ☐ ES-1B Signal, Lighting and Electrical Systems- Symbols and Abbreviations
- ☐ ES-2A Signal, Lighting and Electrical Systems- Service Equipment
- ☐ ES-2B Signal, Lighting and Electrical Systems- Service Equipment
- ☐ ES-2C Signal, Lighting and Electrical Systems- Service Equipment Notes
- ☐ ES-2D Signal, Lighting and Electrical Systems- Service Equipment and Typical Wiring Diagram, Type A
- ☐ ES-2E Signal, Lighting and Electrical Systems- Service Equipment and Typical Wiring Diagram, Type B
- ☐ ES-2F Signal, Lighting and Electrical Systems- Service Equipment and Typical Wiring Diagram, Type C
- ☐ ES-3A Signal, Lighting and Electrical Systems- Signal Heads and Mountings
- ☐ ES-3B Signal, Lighting and Electrical Systems- Signal Heads and Mountings
- ☐ ES-3C Signal, Lighting and Electrical Systems- Signal Heads and Mountings
- ☐ ES-3D Signal, Lighting and Electrical Systems- Signal Heads and Mountings
- ☐ ES-3E Signal, Lighting and Electrical Systems- Signal Heads and Mountings
- ☐ ES-4A Signal, Lighting and Electrical Systems- Controller Cabinet Details
- ☐ ES-4B Signal, Lighting and Electrical Systems- Controller Cabinet Details
- ☐ ES-4C Signal, Lighting and Electrical Systems- Controller Cabinet Details
- ☐ ES-4D Irrigation Controller Enclosure Cabinet
- ☐ ES-4E Signal, Lighting and Electrical Systems- Telephone Demarcation Cabinet Details
- ☐ ES-4F Signal, Lighting and Electrical Systems- Telephone Demarcation Cabinet Details
- ☐ ES-5A Signal, Lighting and Electrical Systems- Detectors
- ☐ ES-5B Signal, Lighting and Electrical Systems- Detectors
- ☐ ES-5C Signal, Lighting and Electrical Systems- Detectors
- ☐ ES-5D Signal, Lighting and Electrical Systems- Detectors
- ☐ ES-5E Signal, Lighting and Electrical Systems- Detectors
- ☐ ES-5F Signal, Lighting and Electrical Systems- Pedestrian Barricades
- ☐ ES-6A Signal and Lighting Standards- Type 1 Standards and Equipment Numbering
- ☐ ES-6AA Signal Standards- Push Button Post
- ☐ ES-6B Lighting Standards- Types 15, 21 and 22
- ☐ ES-6C Lighting Standards- 80' to 160' High Mast Light Pole, Foundation Details
- ☐ ES-6D Lighting Standards- Types 30 and 31, Slip Base
- ☐ ES-6DA Lighting Standards- Type 32
- ☐ ES-6E Lighting Standards- Types 30 and 31, Slip Base Plate Details
- ☐ ES-6F Lighting Standards- 10 Degree Type
- ☐ ES-6H Lighting Standards- 10 Degree Type, Details
- ☐ ES-6J Signal and Lighting Standards- Case 1 Arm Loading, Wind Velocity = 70 MPH, Arm Lengths 15' to 30'
- ☐ ES-6K Signal and Lighting Standards- Case 2 Arm Loading, Wind Velocity = 70 MPH, Arm Lengths 20' to 30'
- ☐ ES-6L Signal and Lighting Standards- Case 3 Arm Loading, Wind Velocity = 70 MPH, Arm Lengths 15' to 45'
- ☐ ES-6M Signal and Lighting Standards- Case 4 Arm Loading, Wind Velocity = 70 MPH, Arm Lengths 25' to 45'
- ☐ ES-6MA Signal and Lighting Standards- Case 5 Arm Loading, Wind Velocity = 70 MPH, Arm Lengths 50' to 55'
- ☐ ES-6N Signal and Lighting Standards- Type 40-0-80
- ☐ ES-6O Signal and Lighting Standards- Case 1 Arm Loading, Wind Velocity = 80 MPH, Arm Lengths 25' to 30'
- ☐ ES-6P Signal and Lighting Standards- Case 2 Arm Loading, Wind Velocity = 80 MPH, Arm Lengths 20' to 30'
- ☐ ES-6Q Signal and Lighting Standards- Case 3 Arm Loading, Wind Velocity = 80 MPH, Arm Lengths 20' to 45'
- ☐ ES-6R Signal and Lighting Standards- Case 4 Arm Loading, Wind Velocity = 80 MPH, Arm Lengths 25' to 45'
- ☐ ES-6RA Signal and Lighting Standards- Case 5 Arm Loading, Wind Velocity = 80 MPH, Arm Lengths 50' to 55'
- ☐ ES-6S Signal and Lighting Standards- Details No. 1
- ☐ ES-6T Signal and Lighting Standards- Details No. 2
- ☐ ES-6TA Signal and Lighting Standards- Pole and Mast Arm Alternatives
- ☐ ES-6U Lighting Standards- Types 10 and 15 Slip Base Insert
- ☐ ES-6V Signal and Sign Standards- Type 33 Left Turn
- ☐ ES-7A Signal, Lighting and Electrical Systems- Electrical Details, Structure Installations
- ☐ ES-7B Signal, Lighting and Electrical Systems- Electrical Details, Structure Installations
- ☐ ES-7C Signal, Lighting and Electrical Systems- Electrical Details, Structure Installations
- ☐ ES-7D Signal, Lighting and Electrical Systems- Electrical Details, Structure Installations
- ☐ ES-7E Signal, Lighting and Electrical Systems- Electrical Details, Structure Installations
- ☐ ES-7F Signal, Lighting and Electrical Systems- Flush Soffit Luminaire Modification Details, Structure Installation
- ☐ ES-8 Signal, Lighting and Electrical Systems- Pull Box Details
- ☐ ES-9A Signal, Lighting and Electrical Systems- Cantilever Flashing Beacon, Types 9, 9A, 9B
- ☐ ES-9B Signal, Lighting and Electrical Systems- Cantilever Flashing Beacon, Types 9, 9A, 9B
- ☐ ES-10 Signal, Lighting and Electrical Systems- Isolux Diagrams
- ☐ ES-11 Signal, Lighting and Electrical Systems- Foundation Installations
- ☐ ES-12 Signal, Lighting and Electrical Systems- Pedestrian Undercrossing Fluorescent Lighting Fixture
- ☐ ES-13 Signal, Lighting and Electrical Systems- Splicing Details
- ☐ ES-14 Signal, Lighting and Electrical Systems- Wiring Detail and Fuse Ratings
- ☐ ES-15 Signal, Lighting and Electrical Systems- Pedestrian Overcrossing Fluorescent Lighting Fixture
- ☐ ES-27A Signal, Lighting and Electrical Systems- Extinguishable Message Sign, 10'' Letters
- ☐ ES-27B Signal, Lighting and Electrical Systems- Extinguishable Message Sign, 10'' Letters
- ☐ ES-28 Signal, Lighting and Electrical Systems- Extinguishable Message Sign and Flashing Beacons

SIGN ILLUMINATION

- ☐ ES-29 Sign Illumination- Mercury Sign Illumination Equipment
- ☐ ES-30 Sign Illumination- 36" Fluorescent Sign Illumination Equipment
- ☐ ES-32A Sign Illumination- Sign Illumination Equipment
- ☐ ES-32B Sign Illumination- Sign Illumination Control
- ☐ ES-33 Sign Illumination- Internally Illuminated Street Name Sign

NEW STANDARD PLANS

- ☐ NSP A40 Rumble Strip Details
- ☐ NSP A75D Concrete Headlight Glare Screen
- ~~☐ NSP A88 Curb Ramp Details No. 1~~
- ~~☐ NSP A89 Curb Ramp Details No. 2~~ } CANCELED
- ☐ NSP T7 Construction Project Funding Identification Signs
- ■ NSP T15 Traffic Control System for Moving Lane Closure on Multilane Highways
- ■ NSP T16 Traffic Control System for Moving Lane Closure on Multilane Highways
- ☐ NSP T17 Traffic Control System for Moving Lane Closure on Two Lane Highways
- ☐ NSP A77GA Anchor Assembly (Breakaway, Type M)-Hardware and Post Details
- ☐ NSP A90 Accessible Parking
- ☐ NSP T5 Temporary Terminal Section (Type K)

REVISED NEW STANDARD PLANS

- ☐ RNSP A88 Curb Ramp Details

SHEET 2 OF 2

STANDARD PLANS LIST

(July, 1992 Edition)

Revised August 28, 1996

DATE PLOTTED => 08-Dec-1997
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DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	4	205

REGISTERED CIVIL ENGINEER — 10-10-97

REGISTERED PROFESSIONAL ENGINEER — K. Greve — No. 53266 — Exp. 6-30-99 — CIVIL — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

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FOR COMPLETE RIGHT OF WAY AND ACCURATE ACCESS DATA, SEE RIGHT OF WAY RECORD MAPS AT DISTRICT OFFICE.

SAN FRANCISCO

Reconstruct 28 LF chain link fence to faces of new shear wall.

New infill shear wall

Replace curb & pavement (See C-1 for details)

Replace curb (See C-1 for details)

SFOBB LINE

N 40°20'47.3"E

N 49°39'12.7"W

Bent 39 SF08B 164+85.50

Bent 40 SF08B 165+15.50

Bent 41 SF08B 165+45.50

Bent 39A SF08B 164+79.00

Bent 40A SF08B 165+23.00

Bent 42 SF08B 165+75.50

Bent 43 SF08B 165+93.50

Bent 44 SF08B 166+39.83

Bent 45 SF08B 166+86.17

Bent 46 SF08B 167+32.50

Bent 47 SF08B 167+78.83

Bent 48 SF08B 168+25.17

Bent 49 SF08B 168+71.50

Bent 50 SF08B 169+17.83

Bent 51 SF08B 169+64.17

Bent 52 SF08B 170+10.50

SFOBB 169+21.81
"Y" 4+36.06

LOWER DECK PLAN

LAYOUT
SCALE: 1" = 20'

L-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

PROJECT ENGINEER: KATJA GREVE

DATE	REVISED BY	DATE REVISED

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CU 04269

EA 043001

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04	SF, Ala	80	7.8/8.9, 0.0/1.1	5	205

K. Greve 10-10-97
REGISTERED CIVIL ENGINEER

12-8-97
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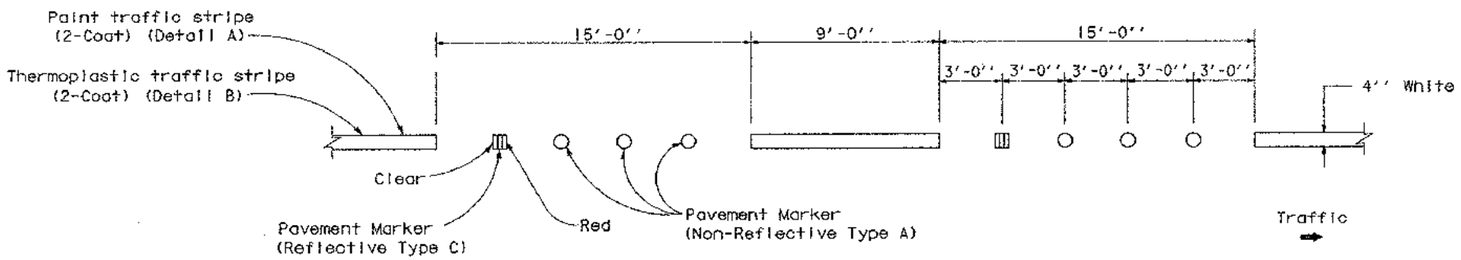
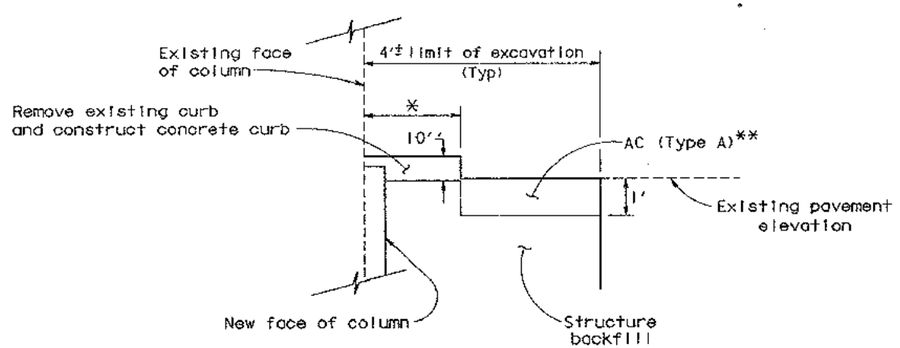


PAVEMENT DELINEATION DETAIL A or B

FROM SF08B STA 165+00
TO 173+40



REPLACE CURB & PAVEMENT TYPICAL

Note: *Match existing edge of curb
**Pavement replacement at Bents 46 thru 50 only.

CONSTRUCTION DETAILS

NO SCALE

C-1

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PROJECT ENGINEER: KATJA GREVE

STATE OF CALIFORNIA — DEPARTMENT OF TRANSPORTATION
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EA 043001

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PROJECT ENGINEER	KATJA GREVE

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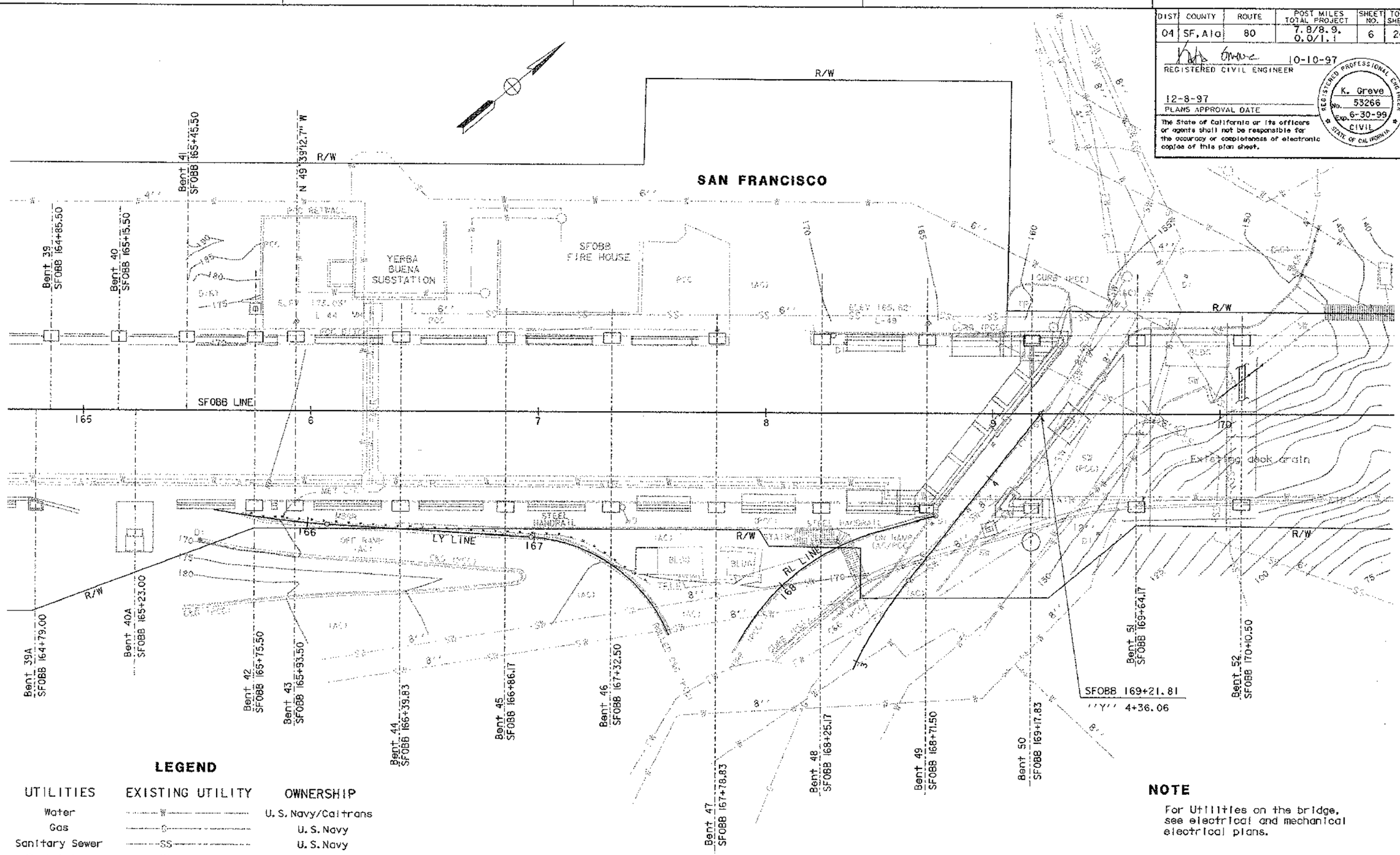

LEGEND

UTILITIES	EXISTING UTILITY	OWNERSHIP
Water	——W——	U. S. Navy/Caltrans
Gas	——G——	U. S. Navy
Sanitary Sewer	——SS——	U. S. Navy
Salt Water	——SW——	U. S. Navy
Fresh Water	——FW——	U. S. Navy
Electric	——E——	GTE
Telecommunication	——T——	GTE
Compressed Air	——AIR——	Caltrans

NOTE

For Utilities on the bridge, see electrical and mechanical electrical plans.

LOWER DECK PLAN

UTILITY PLAN

SCALE: 1" = 20'

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET U-1

U-1

LAST REVISION 10-23-97 — DATE PLOTTED => 09-Dec-1997 — TIME PLOTTED => 07:01

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CU 04259

EA 043001

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04	SF, Ala	80	7.8/8.9, 0.0/1.1	7	205

K. Greve 10-10-97
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PROJECT ENGINEER
KATJA GREVE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
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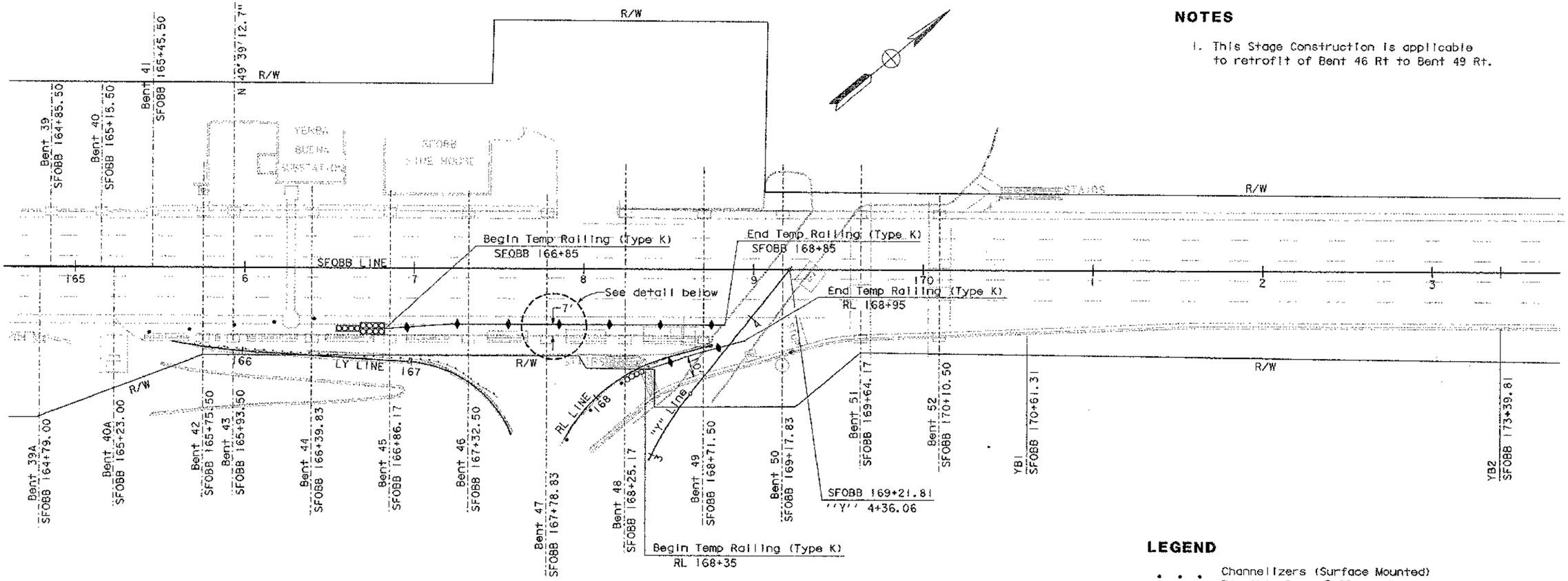
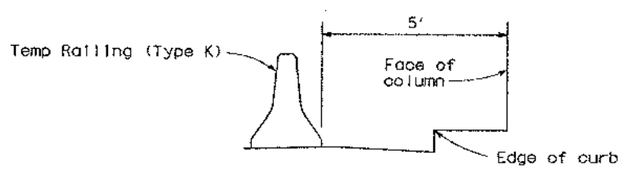
NOTES

1. This Stage Construction is applicable to retrofit of Bent 46 Rt to Bent 49 Rt.





Stage 1 Construction

1. Install temporary crash cushion modules and temporary railings (Type K) for main line traffic.
2. Install temporary crash cushion modules and temporary railings (Type K) for on-ramp traffic. Provide 10'-0" of travel way.

LEGEND

- Channelizers (Surface Mounted) Flexible Base @ 25' spacing
- (No) Pavement Delineation Detail See also sheet C-1
- Temporary Railing (Type K)
- Temporary Crash Cushion Modules (Array TG)
- Limits of Pavement Delineation Detail
- Temporary Crash Cushion Modules (Array TJ)

LOWER DECK PLAN

STAGE CONSTRUCTION
TRAFFIC HANDLING PLAN
STAGE 1

SCALE: 1" = 30'

This Plan Accurate for Stage Construction Only

SC-1

LAST REVISION	DATE PLOTTED => 09-Dec-1997
10-23-97	TIME PLOTTED => 07:01

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CU 04259

EA 043001

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12-8-97
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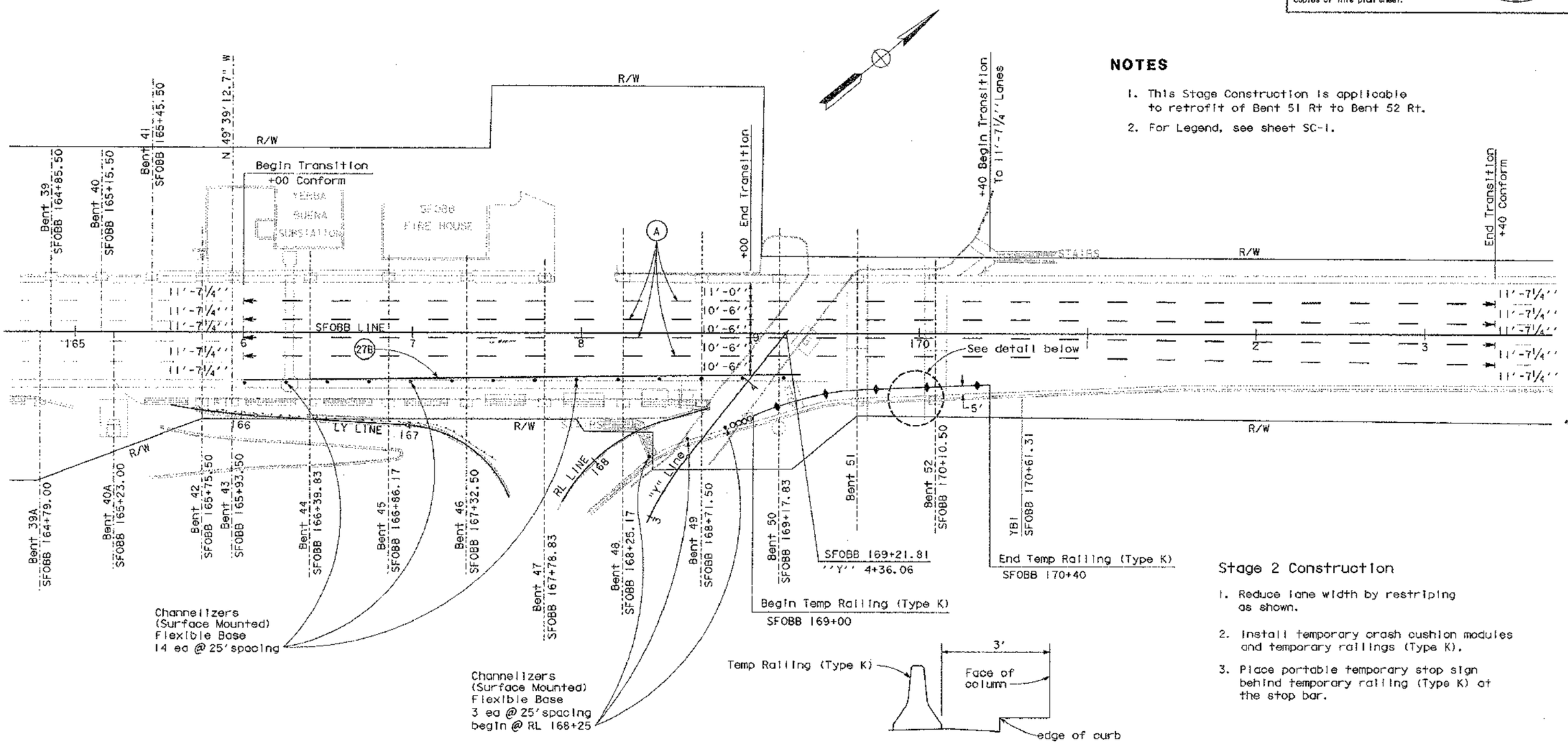
PROJECT ENGINEER	KATJA GREVE	

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

NOTES

1. This Stage Construction is applicable to retrofit of Bent 51 Rt to Bent 52 Rt.
2. For Legend, see sheet SC-1.



LOWER DECK PLAN

Stage 2 Construction

1. Reduce lane width by restriping as shown.
2. Install temporary crash cushion modules and temporary railings (Type K).
3. Place portable temporary stop sign behind temporary railing (Type K) at the stop bar.

STAGE CONSTRUCTION
TRAFFIC HANDLING PLAN
STAGE 2

SCALE: 1" = 30'

SC-2

This Plan Accurate for Stage Construction Only

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CU 04259 | EA 043001

LAST REVISION 10-23-97 | DATE PLOTTED => 09-Dec-1997 | TIME PLOTTED => 07:00

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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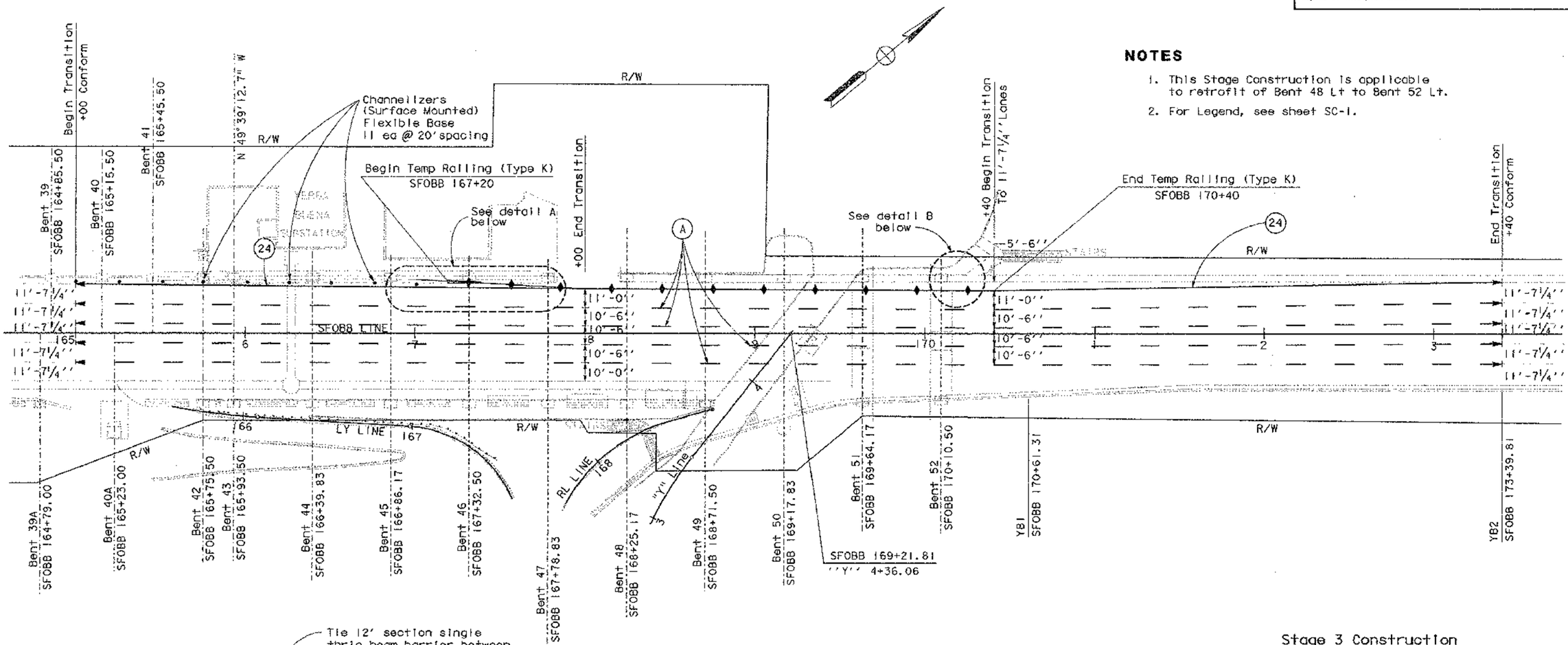
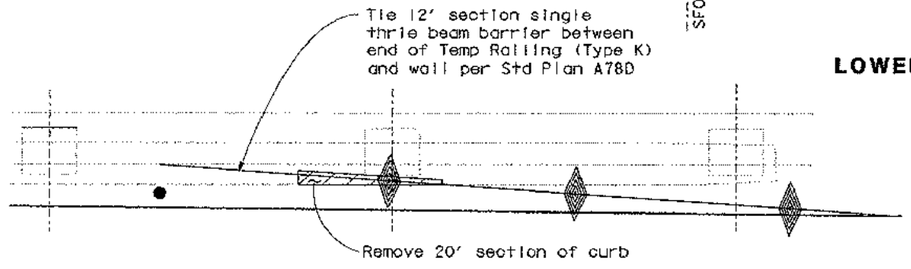
Caltrans **PROJECT DEVELOPMENT**



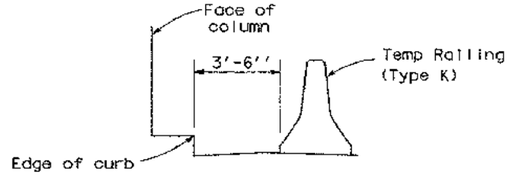
LOWER DECK PLAN

NOTES

1. This Stage Construction is applicable to retrofit of Bent 48 Lt to Bent 52 Lt.
2. For Legend, see sheet SC-1.



DETAIL A



DETAIL B

Stage 3 Construction

1. Reduce lane width by restriping as shown.
2. Install single thrie beam barrier and temporary railings (Type K).

STAGE CONSTRUCTION
TRAFFIC HANDLING PLAN
STAGE 3

SCALE: 1" = 30'

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET SC-1

This Plan Accurate for Stage Construction Only

SC-3

LAST REVISION 10-23-97 | DATE PLOTTED => 09-Dec-1997 | TIME PLOTTED => 07:00

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-OE]404300103.psf

CU 04259 | EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	10	205

Florante P. Perez 10-15-97
REGISTERED CIVIL ENGINEER

12-8-97
PLANS APPROVAL DATE

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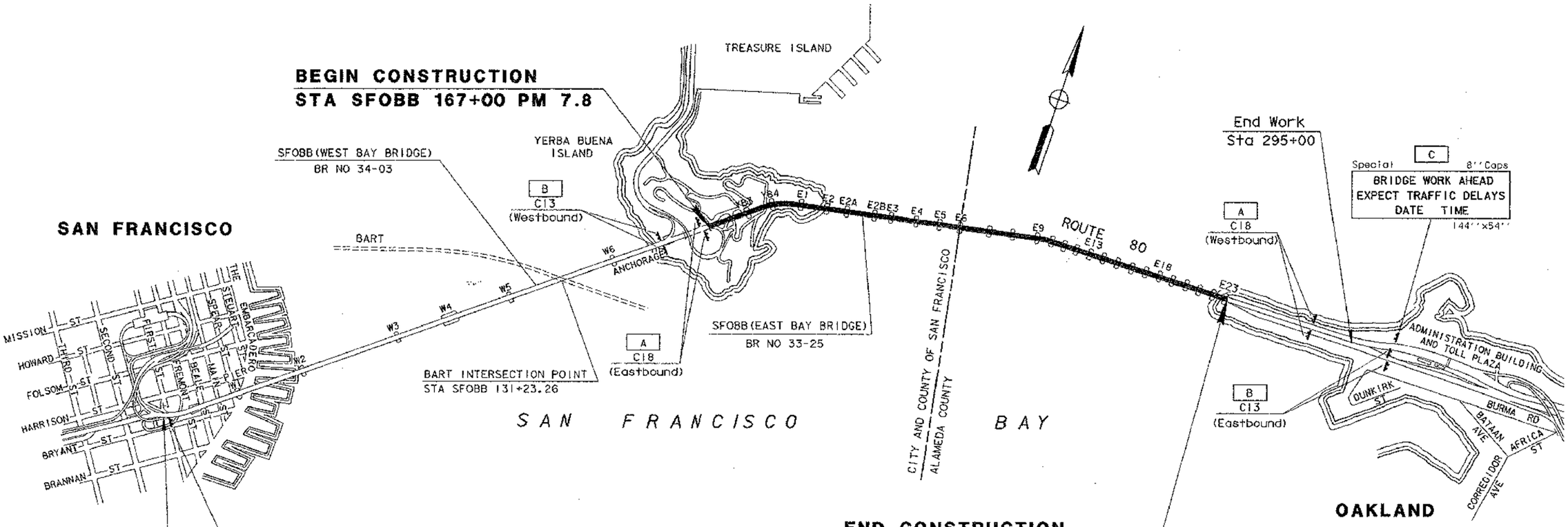
REGISTERED PROFESSIONAL ENGINEER
F. P. Perez
No. 41030
Exp. 3-31-99
CIVIL
STATE OF CALIFORNIA

DATE	REVISED BY
	DATE REVISED
CALCULATED/ DESIGNED BY	HTC
CHECKED BY	FPP

PROJECT ENGINEER F. P. PEREZ

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
TRAFFIC



CONSTRUCTION AREA SIGNS

Type	Sign Code	Sign Message	Panel Size	No of Post and Size (Wood Post)	Quantity (Each)	Remarks
A	C18	ROAD CONSTRUCTION AHEAD	72''x72''	2-6''x6''	4	(S)
B	C13	END CONSTRUCTION	60''x24''	2-4''x4''	4	(S)
C	Special		144''x54''	2-6''x6''	2	(S)

NOTES: 1. Exact location and position of construction area signs to be determined by the Engineer.
2. (S) Denotes stationary mounted sign.

END CONSTRUCTION
STA SFOBB 273+20 PM 1.1

CONSTRUCTION AREA SIGNS

NO SCALE

FOR NOTES, ABBREVIATIONS &/OR LEGEND, SEE SHEET CS-1

CS-1

LAST REVISION 10-23-97
DATE PLOTTED => 09-Dec-1997
TIME PLOTTED => 07:00

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USERNAME => trannda
DGN FILE => (ESC-OE)404300m01.psf

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	11	205

K. Greve 10-10-97
REGISTERED CIVIL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — K. Greve — No. 53266 — Exp. 6-30-99 — CIVIL — STATE OF CALIFORNIA

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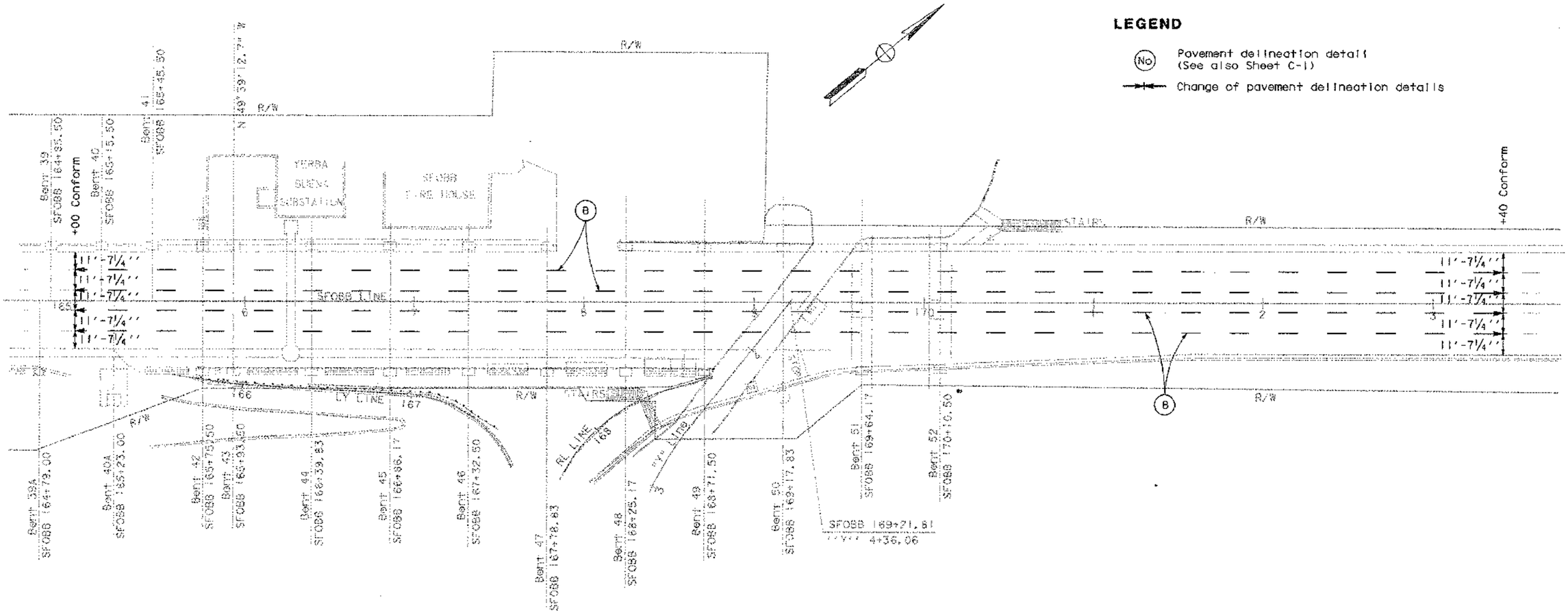
LEGEND

(No) Pavement delineation detail (See also Sheet C-1)

Change of pavement delineation details



LOWER DECK PLAN

PAVEMENT DELINEATION PLAN

SCALE: 1" = 30'

This Plan Accurate for Pavement Delineation Only

PD-1

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT
PROJECT ENGINEER: KATJA GREVE
CALCULATED/DESIGNED BY
CHECKED BY
DATE REVISED BY
DATE REVISED

LAST REVISION 10-23-97 | DATE PLOTTED => 09-Dec-1997 | TIME PLOTTED => 07:00

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CU 04259 | EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	12	205

10-10-97
REGISTERED CIVIL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — K. Greve — No. 53266 — Exp. 6-30-99 — CIVIL — STATE OF CALIFORNIA

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SINGLE THRIE BEAM BARRIER

SHEET NO	LOCATION	LF
SC-3	Bent 46 L	12

RECONSTRUCT CHAIN LINK FENCE

LOCATION	LF
Below deck at Bent 52 Infill sheer wall	28

CHANNELIZER (SURFACE MOUNTED)

SHEET NO	LOCATION	EA
SC-1	SFOBB 165+40 to 166+15	5
	RL 167+30 to 167+80	3
SC-2	SFOBB 166+00 to 169+30	14
	RL 168+25 to 168+75	3
SC-3	SFOBB 165+00 to 167+50	11
TOTAL		36

ROADWAY ITEMS

LOCATION	MINOR CONCRETE (MISC. CONSTRUCTION)	ASPHALT CONCRETE (TYPE A)	REMOVE CONCRETE
	CY	TON	CY
Bent 48L	0.54	3.20	0.54
Bent 49L thru 52L	3.01	4.70	3.01
Bent 46R thru 48R	8.04	11.10	8.04
Bent 51R & 52R	1.50	0	1.50
Bent 46L	0.62		0.62
TOTAL	13.71	19.0	13.71

TEMPORARY CRASH CUSHION MODULES

SHEET NO	LOCATION	EA
SC-1	RL 168+25 ±	4
	SFOBB 166+70 ±	12
SC-2	SFOBB 168+90 ±	4
SC-3		
TOTAL		20

TEMPORARY RAILING (TYPE K)

SHEET NO	LOCATION	LF
SC-1	SFOBB 166+85 to 168+85	200
	RL 168+35 to SFOBB 168+95	60
SC-2	SFOBB 169+00 to 170+40	140
SC-3	SFOBB 167+20 to 170+40	320
TOTAL		720

PAVEMENT DELINEATION

SHEET NO	LOCATION	DETAIL NO	* PAINT TRAFFIC STRIPE (2-COAT) 4'' YELLOW	* PAINT TRAFFIC STRIPE (2-COAT) 4'' WHITE	4'' THERMOPLASTIC TRAFFIC STRIPE WHITE	PAVEMENT MARKER (NON-REFLECTIVE)	PAVEMENT MARKER (REFLECTIVE - SPECIAL) TYPE C
			LF			EA	
SC-1							
SC-2	SFOBB 166+00 to 173+40	A		2960		* 370	* 124
	SFOBB 166+00 to 169+30	27B		330			
SC-3	SFOBB 165+00 to 173+40	A		3360		* 420	* 140
	SFOBB 165+00 to 168+00	24	300				
	SFOBB 170+40 to 173+40		300				
PD-1	SFOBB 165+00 to 173+40	B			3360	420	140
TOTAL			600	6650	3360	1210	404

* Temporary Pavement Delineation (in place more than 6 months), pay two items.

REMOVE PAVEMENT DELINEATION

SHEET NO	LOCATION	DETAIL NO	REMOVE PAINTED TRAFFIC STRIPE	REMOVE EXISTING THERMOPLASTIC TRAFFIC STRIPE	REMOVE PAVEMENT MARKER
			LF		EA
SC-2	Existing			3360	560
	SFOBB 166+00 to 173+40	A	2960		494
	SFOBB 166+00 to 169+30	27B	330		
SC-3	SFOBB 165+00 to 173+40	A	3360		560
	SFOBB 165+00 to 168+00	24	300		
	SFOBB 170+40 to 173+40	24	300		
TOTAL			7250	3360	1614

SUMMARY OF QUANTITIES

Q-1

DATE	REVISED BY	DATE REVISED
	CALCULATED/ DESIGNED BY	
	CHECKED BY	

PROJECT ENGINEER: KATJA GREVE

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans PROJECT DEVELOPMENT

LAST REVISION 10-23-97
DATE PLOTTED => 09-Dec-1997
TIME PLOTTED => 06:59

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USERNAME => tranndo
DGN FILE => [ESC-OE]404300a01.psf

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	13	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

GENERAL NOTES

1. Dimensions shown for existing structures are taken from construction drawings and minor variations are to be anticipated. The Contractor shall field verify and adjust all dimensions to fit existing conditions.
2. For clarity, all conduits and cables are not shown. Project notes shall prevail.
3. Exact location of the equipment may be adjusted to field conditions by the Engineer.
4. All new conduits and cables shall be secured at a maximum of 5' intervals.
5. Prior to performing any work on the TOS system, the Contractor shall coordinate with the Engineer as to which portion of the system will be shut down and the shutdown duration. Any work involving MDC, MPC, SCADA, RTU, call box, cameras or magnetic detectors are considered as TOS system.
6. All electrical equipment, conduits, junction boxes, conductors, that need relocation shall be kept by Contractor during construction.
7. All electrical items attached to the verticals shall be removed prior to the retrofit work and be placed after the vertical cover plate and vertical perforated plates have been put in place.
8. 15 kV splicing shall be done by a certified high voltage splicer. The Contractor shall allow 5 working days to approve splicer by the Engineer.
9. 15 kV splice boxes shall be installed at every 1000 feet and permanently marked DANGER-HIGH VOLTAGE-KEEP OUT. The letters shall be block type at least ½ inch in height. the 15 kV splice boxes shall be padlocked to prevent access by unauthorized personnel.
10. All the flexible cables located on the lower deck south rail from the existing utility outlets, shall be removed 1' (min) from the truss to be retrofitted and secured to rail with new PVC coated steel clamps.
11. If there are cables or conduits not shown by these plans, the Contractor shall verify the use of these equipment. If these equipment have to be maintained, the Contractor shall relocate the equipment and maintain as directed by the Engineer.
12. When retrofit work is completed, all cables and conduits located to the side of the truss facing the traffic shall be relocated to their original locations and shall be attached to perforated plate with new PVC coated steel clamps.
13. The Contractor shall disconnect and reconnect all the cables and conduits on the same day between hours 9:00 AM to 3:00 PM.
14. For bridge structural dimensions, see Structural plans.
15. All new junction boxes shall be Type NEMA 3R unless otherwise mentioned on the plans.
16. All conduits and cables shall be connected to junction boxes using threaded insulated bonding bushing (pressure type lug) with gasketed sealing locknut and moisture proof hub with "O" ring.

PROJECT NOTES

[1] Existing 1½''C, 1 pair detector leads
[2] Existing 1½''C, 2 pair detector leads
[3] Existing 1½''C, 2 pair detector leads, 2-5 pair mic.
[4] Existing 1½''C, 1 pair detector leads, 2-5 pair mic.
[5] Existing 1½''C, 1-5 pair mic.
[6] Remove and salvage one or two mic as indicated on E-4 before retrofit work. Reinstall all salvaged mic upon completion of the project.
[7] Disconnect circuit between detector leads and mic before retrofit work. Restore circuit continuity upon completion of the project.
[8] Existing 2''C, 2 mic. Remove this portion of conduit during project construction. [CC] upon completion of the project.
[9] Existing 1¼''C, 3#8 (120V, City Lighting). [CC] replace and protect in place as shown this portion of conduit during project construction. Replace existing conductors with new ones.
[10] Existing 1¼''C, 3#8 (120V, City Lighting). to service disconnect in city building approximately 100 yards away.
[11] ¾'' ac
[12] 1'' ac
[13] 1½'' ac
[14] 2'' ac
[15] 1'' ltfc
[16] 1½'' ltfc
[17] 2'' ltfc
[18] 4- 1'' av, sg(2#10), mcc
[19] Existing 1½''C
[20] Existing 2''C
[21] Temporary disconnect the existing enclosure from the structure. Support, and protect the enclosure during structural retrofit work, and reinstall afterward.
[22] [12], [RC] Cable clamp
[23] [RC] existing conduit clamp
[24] Existing splice box
[25] Install new cable clamp and re-clamp cable.
[26] Install new conduit clamp and re-clamp conduit.
[27] [RS] Detach existing unistrut.
[28] Reinstall salvaged unistrut.
[29] [12], [12], [13], [16]
[30] 3'' ac, 12 kV
[31] Exist 4'' Air line
[32] Exist 4'' Water line
[33] Exist ¾'' ltfc
[34] 6''C, 3#1/0 (12 kV conductor cable), 1#2
[35] Existing cables on cable railing
[36] Disconnect circuits and remove jb before retrofitting. Reinstall at the new location and connect circuits as shown on plan afterward.
[37] [RS] the fixture and jb before retrofitting. Reinstall at the new location as shown on plan afterward.
[38] Existing Telephone cable
[39] ½'' ltfc
[40] 1½'' ltfc, tvcp, tvp
[41] 1½''C, tvcp, tvp
[42] 1½'' ltfc, tvc, tvl
[43] Existing 1½''C, tvc, tvl
[44] Existing conduits and cables to remain unchanged shown for reference only.
[45] Detach unistrut during retrofitting. Reinstall back afterward.
[46] [RC] existing 3'' AC, 15 kV cable from Pier E9 to Pier E23 (4200' ±).
[47] Install 3'' AC (15 kV) from Piers E9 to E23 (4200' ±).
[48] [21] with a unistrut.
[49] Detach conduit clamp, reattach at the same location afterward.
[50] Existing ¾''C
[51] Existing Telephone cable
[52] [RC] [24], Install new splice box
[53] Existing 4''C, Communication Cable
[54] Existing ½''C
[55] Install unistrut and conduit clamp to mount the 6''C, 15 kV Cables
[56] Existing ¾'' conduit with navigation lighting conductors. Remove existing clamps and relocate conduit to the side of truss as directed by the Engineer.
[57] Existing navigation lighting cable. Disconnect cable from relay cabinet; move out of the structure and install to the side of truss facing traffic and reconnect to the relay cabinet. This will be done during the day and removing and relocation will be completed on the same day.
[58] Existing 1" flex conduit with 2#6 for upper deck lighting. Disconnect cable from fuse disconnect and install on the side of truss facing traffic. Connect cable to fused disconnect.
[59] Relocated lighting conduit (for upper deck light)
[60] Existing navigation lighting cable, see [57]
[61] Existing conduit with navigation lighting cable

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
GENERAL NOTES, PROJECT NOTES

NO SCALE

E-1

DATE	REVISED BY	DATE REVISED
JKG	BG/NC	

CALCULATED/DESIGNED BY
CHECKED BY

PROJECT ENGINEER · BEHZAD GOLEMOHAMMADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

LAST REVISION 10-23-97 | DATE PLOTTED => 09-Dec-1997 | TIME PLOTTED => 07:39

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DGN FILE => [ESC-OE]1404300u01.psf

CU 04259

EA 043001

PROJECT NOTES

62	Existing Navigation Lighting Relay Cabinet.
63	Existing 1½"C conduit with navigation lighting cable to be relocated.
64	Existing navigation lighting cable inside the structure to be relocated.
65	Existing ¾" conduit with navigation lighting conductors to be relocated.
66	Existing ¾" conduits on the side of truss facing traffic to remain as is.
67	Existing navigation lighting 1½" conduit with cable. Remove existing clamps and locate conduit with cable to the side of the truss facing traffic.
68	Existing 1½" conduit with cable located from the side of the truss, see 63.
69	Existing conduits to remain as is.
70	Vertical Truss
71	Existing cable located to the side of truss facing traffic
72	Existing cable pulled out of vertical truss and re-installed, see 64.
73	Existing ¾" conduit located from the side of truss, see 56.
74	See "INSERT" on this sheet for more details.
75	See Section C-C on E-12
76	See Section D-D on E-12
77	See Section E-E on E-12
78	See Section F-F on E-12
79	See Section G-G on E-15
80	See Section H-H on E-15
81	See Section I-I on E-14
82	See Section J-J on E-14
83	See Section K-K on E-14
84	See Section L-L on E-14
85	See Section M-M on E-14
86	See Section N-N on E-14
87	See Detail D on E-13
88	See Detail E on E-13
89	See Detail F on E-13
90	Existing 1'' flexible conduit with 2#6 for upperdeck light. Disconnect cable from fused disconnect at the base of the light. Remove cable out of the vertical truss and install on the side of truss facing traffic. Connect cable to fused disconnect.
91	Relocate existing camera cables and junction boxes from the existing I-Beam to the new perforated plate.
92	Existing cables to control cabinet #53 for camera on E18 and to control cabinet #26 for camera on E22.
93	Install cable support brackets or clamps at every 5'.
94	RS Jb. 1½''C.
95	Existing ¾'' ltfc magnetic probe cable.
96	Existing 1½'', magnetic probe cable.
97	Existing 1½'', I mdc.
98	Existing 3 conductor #6 armored cable (480V lighting).
99	Existing 2 conductor #6 armored cable (480V lighting).
100	Install 1½''LTFC, 3#8, 2-6 #16 conductor cable.
101	Existing 1½''C, 3#8, 2-6 #16 conductor cable.
102	Install 4'' liquid tight flex between the junction box and existing 4''C.
103	Install 48" x 36" x 12" NEMA Type 3R Junction Box.
104	Splice-3 #1/0 Conductors to 15 kV AC.

INDEX TO ELECTRICAL PLANS
ELECTRICAL FACILITIES (SEISMIC RETROFIT)

SYMBOLS

——E————E—— Electrical Lines

ABBREVIATIONS

EXISTING	PROPOSED	
ac	AC	Armored cable
av	AV	Armored video
flex	FLEX	Flexible
jb	JB	Junction box
jc	JC	Jumper cable
ltfc	LTFC	Liquid tight flexible metal conduit
lvcc	LVCC	Low voltage control center
mcc	MCC	Main communication cable
mdc	MDC	Magnetic detector cable
mlc	MLC	Magnetometer lead-in cable
mpc	MPC	Main power cable
odc	ODC	Optical detector cable
ods	ODS	Optical detector sender
rtu	RTU	Remote terminal unit
scada	SCADA	Supervisory control and data acquisition
sg	SG	System ground
tos	TOS	Traffic operating system
tvc	TVC	TV camera control cable
tvcp	TVCP	TV camera control power cable
tvl	TVL	Local video cable from camera to control cabinet (4 flexible coaxial cables)
tvp	TVP	TV camera power cable

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	14	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — Exp. 3-31-01 — ELECT. — STATE OF CALIFORNIA

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PROJECT NOTES, ABBREVIATIONS, INDEX TO ELECTRICAL PLANS

NO SCALE

E-2

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION — Caltrans — ELECTRICAL

PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY: JKG — CHECKED BY: BG — REVISED BY — DATE REVISED

LAST REVISION 10-30-97 — DATE PLOTTED => 09-Dec-1997 — TIME PLOTTED => 06:59

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CU 04259 — EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7-878.9, 0.0/1.1	15	205

B. Coleman Ahmadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Coleman Ahmadi — No. 15283 — Exp. 3-31-01 — ELECT. — STATE OF CALIFORNIA

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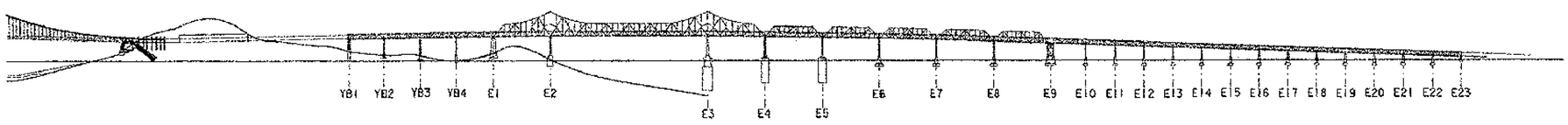
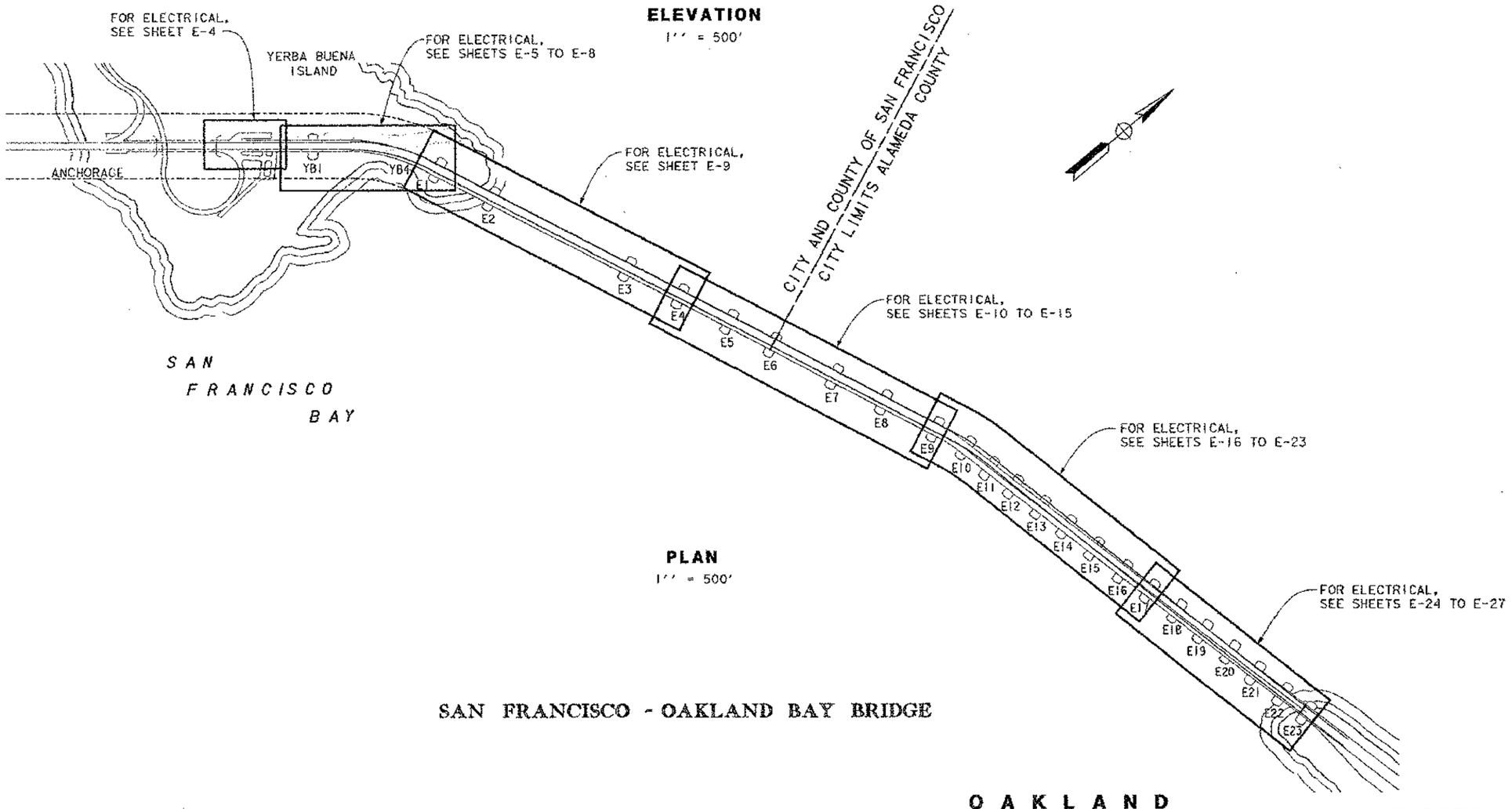


ELEVATION
1'' = 500'



PLAN
1'' = 500'

SAN FRANCISCO - OAKLAND BAY BRIDGE

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

GENERAL PLAN

SCALE AS PLAN

E-3

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION	PROJECT ENGINEER
Caltrans ELECTRICAL	BEHZAD GOLEMOHAMMADI

CALCULATED/ DESIGNED BY	CHECKED BY	DATE	REVISED BY	DATE REVISED
JKG	BG			

LAST REVISION 10-15-97 — DATE PLOTTED => 09-Dec-1997 — TIME PLOTTED => 08:59

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CU 04259 — EA 043001

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04	SF, Ala	80	7.8/8.9, 0.0/1.1	16	205

B. Golehammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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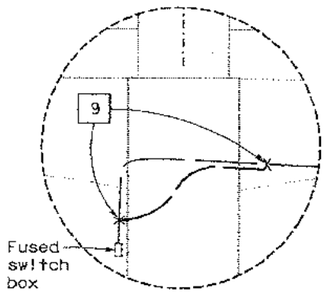
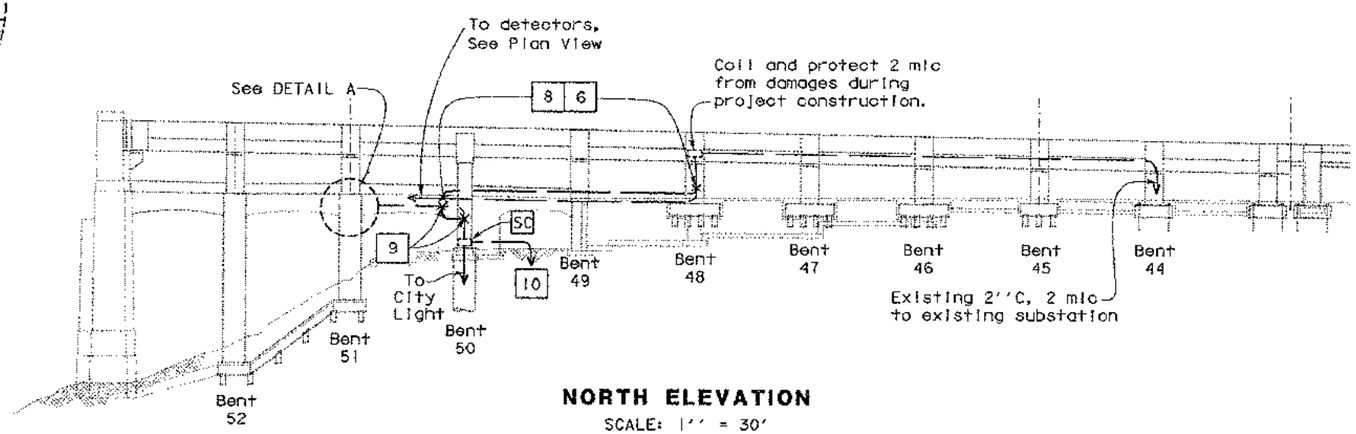
REGISTERED PROFESSIONAL ENGINEER — B. Golehammadi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA



DETAIL A

NO SCALE

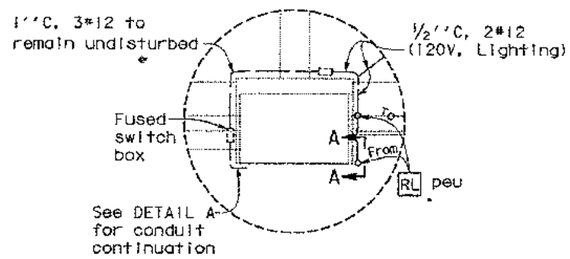


NORTH ELEVATION

SCALE: 1'' = 30'

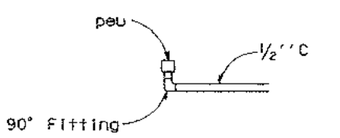
NOTE (Applicable to this sheet only):

The word ''City'' in this sheet means ''Maintained by the City of San Francisco which can be contacted at (415) 274-0694'' three days in advance.



DETAIL B

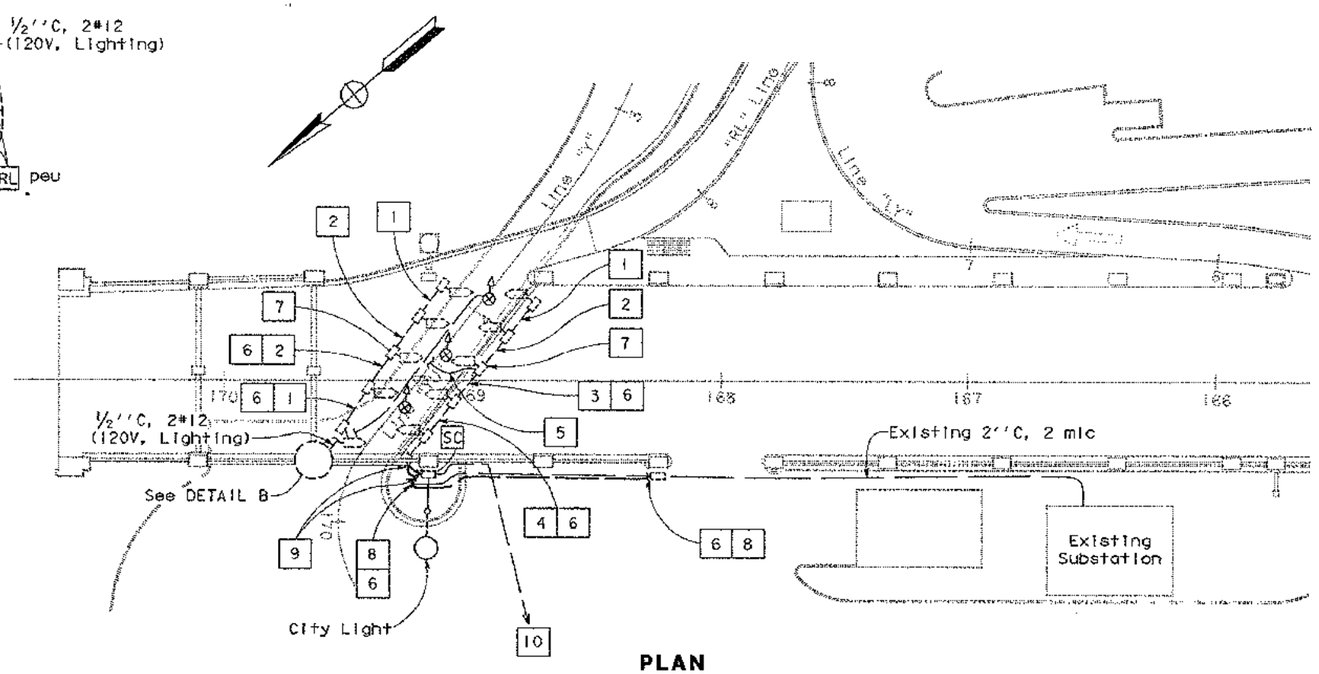
NO SCALE



SECTION A-A

EXISTING peu MOUNTING DETAIL

NO SCALE



PLAN

SCALE: 1'' = 30'

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

DETECTORS, LIGHTING

SCALE AS SHOWN

E-4

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY
CHECKED BY
NC 8/97 — REVISED BY — DATE REVISED
BG

LAST REVISION 10-22-97 — DATE PLOTTED => 06-Dec-1997 — TIME PLOTTED => 14:48

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	17	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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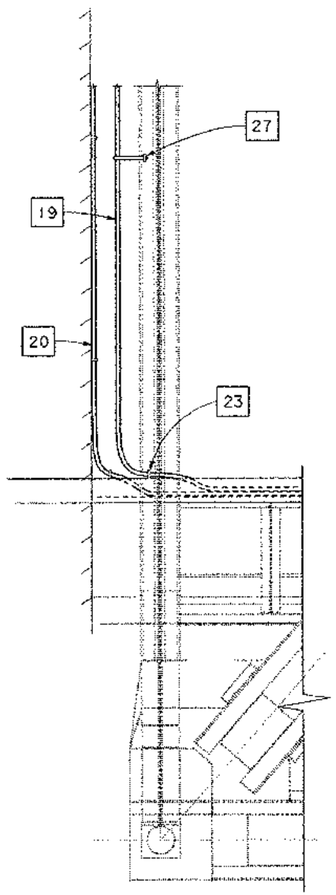
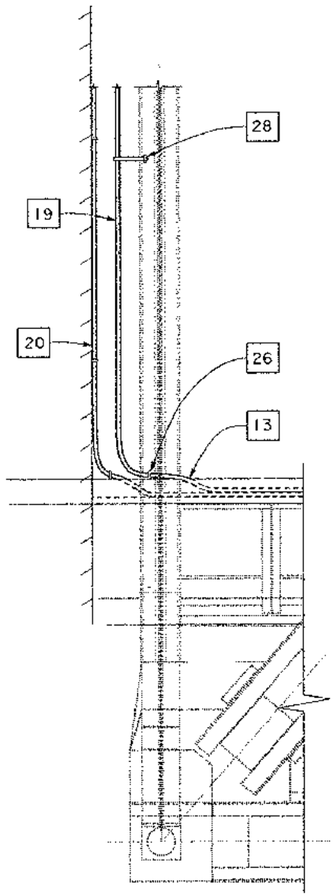
DATE	REVISED BY
WK	BG
	CHECKED BY
	CALCULATED/ DESIGNED BY
	DATE REVISED

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER
BEHZAD GOLEMOHAMMADI

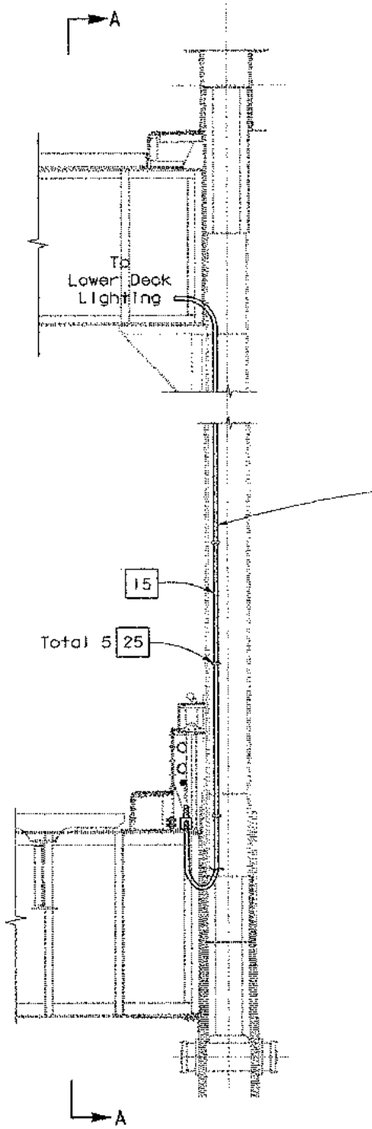


BEFORE STRUCTURAL RETROFIT



AFTER STRUCTURAL RETROFIT

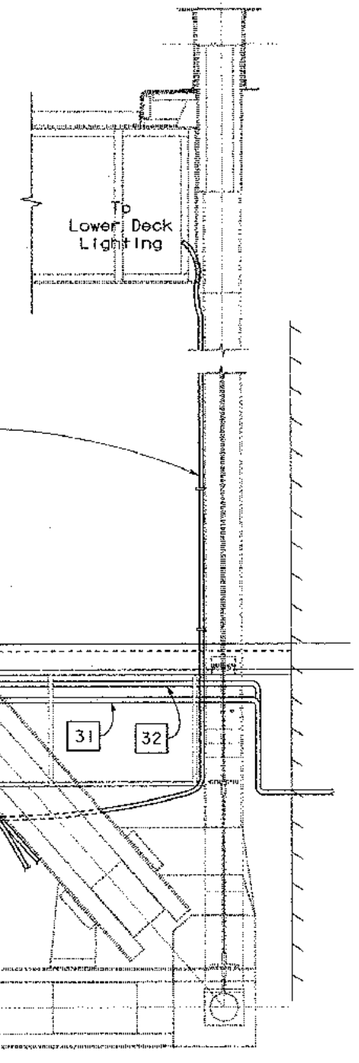
YB1 NORTH SIDE ELEVATION



*AFTER STRUCTURAL RETROFIT

YB1 SOUTH SIDE ELEVATION

* For "Before Structural Retrofit" see E-7



SECTION A-A
AFTER STRUCTURAL RETROFIT

YB1 SOUTH-SIDE ELEVATION

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

PIER YB1

NO SCALE

E-5

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LAST REVISION 10-30-97
DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 14:48

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alg	80	7.6/8.9, 0.0/1.1	18	205

B. Colesharmadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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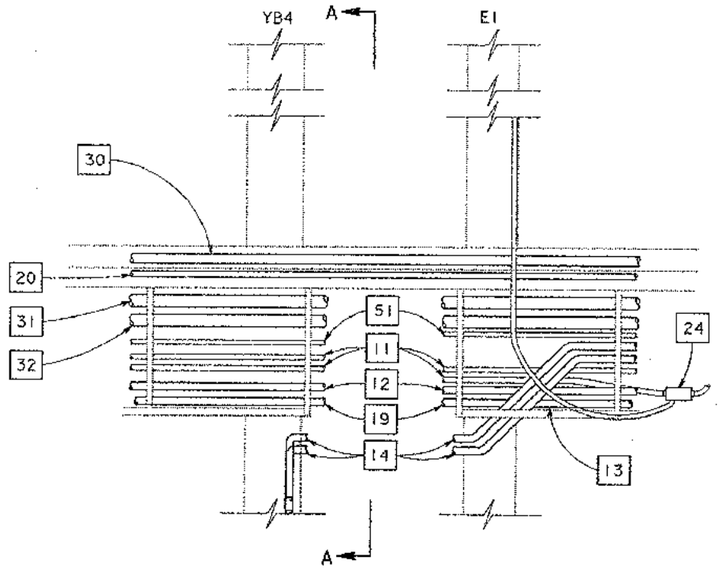
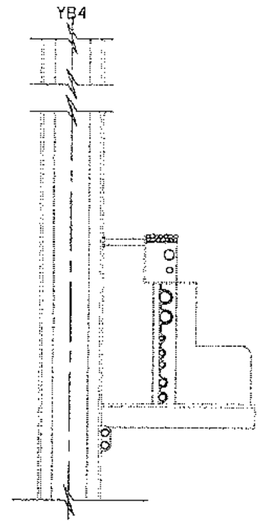
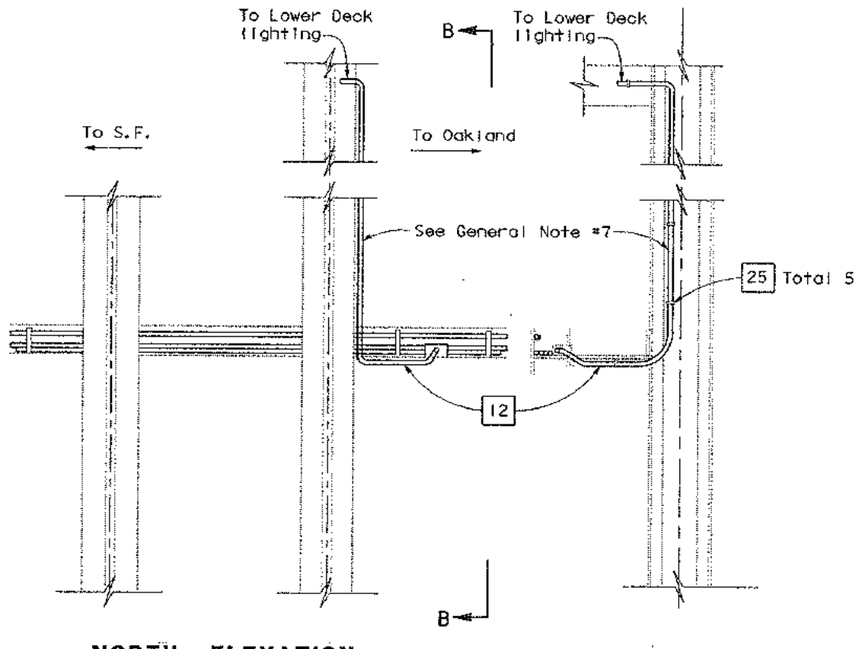
REGISTERED PROFESSIONAL ENGINEER
B. Colesharmadi
No. 15283
Exp. 3-31-01
ELECT
STATE OF CALIFORNIA



SOUTH ELEVATION AT PIER E1



SECTION A-A



NORTH ELEVATION TYPICAL FOR PIERS YB2 TO YB4

SECTION B-B

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIERS YB2 TO E1

NO SCALE

E-6

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STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER
BEHZAD COLEMOHAMMADI

CALCULATED/ DESIGNED BY	WK	DATE 8/97	REVISED BY
CHECKED BY	NC	8/97	DATE REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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LAST REVISION 10-23-97 | DATE PLOTTED => 08-Dec-1997 TIME PLOTTED => 14:49

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	19	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA

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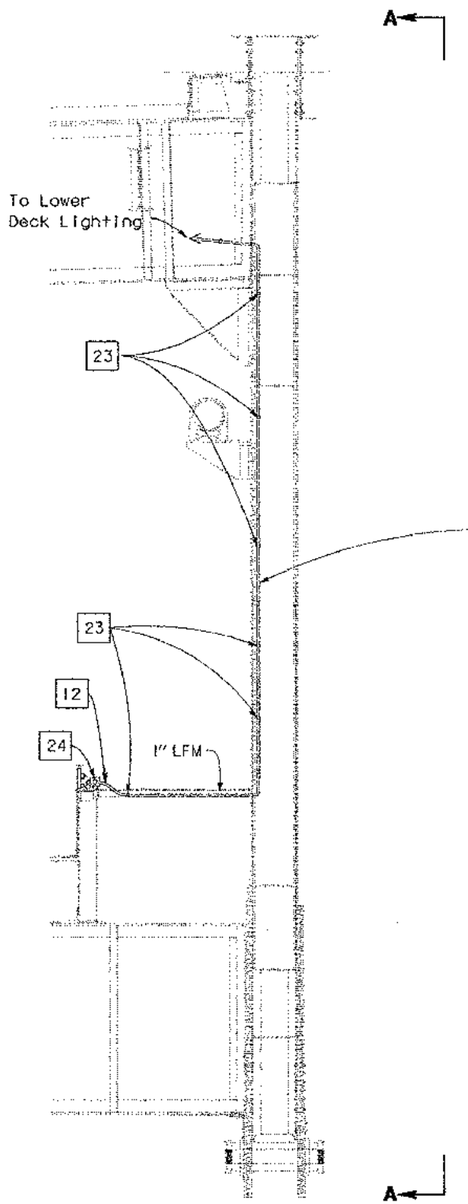
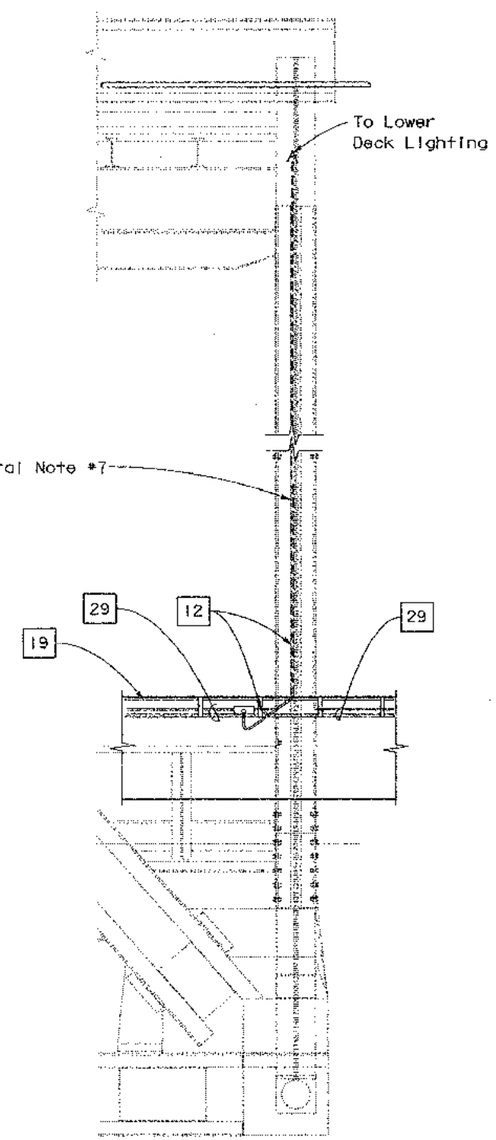
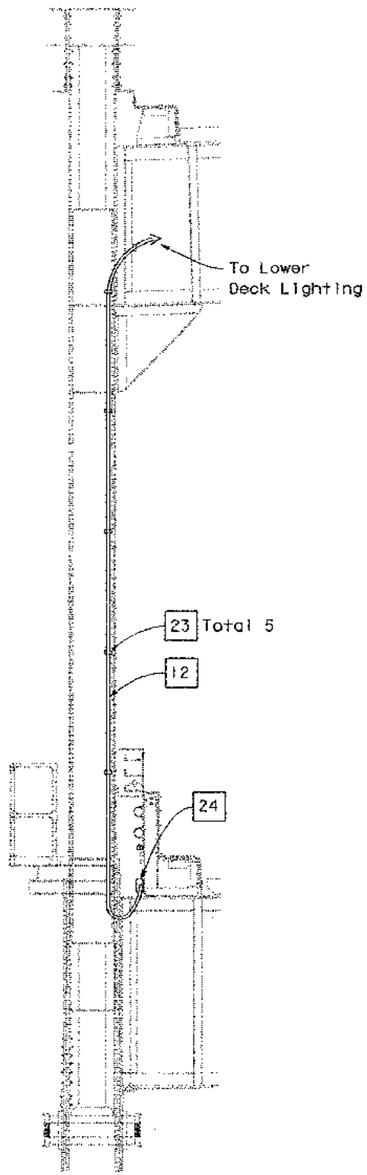


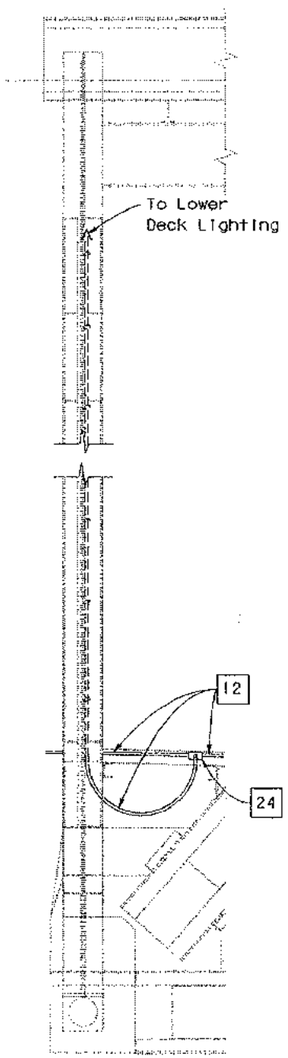
NORTH ELEVATION
PIERS YB2 TO YB4



SECTION A-A



SOUTH SIDE LIGHTING
PIERS YB1 TO YB4 , PIER E9



SOUTH ELEVATION
PIERS YB1 TO YB4 , PIER E9

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

EXISTING TYPICAL LOWER DECK LIGHTING PIERS YB1 TO YB4 ,PIER E9

NO SCALE

E-7

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER
BEHZAD GOLEMOHAMMADI

CALCULATED/ DESIGNED BY
CHECKED BY

DATE	REVISED BY	DATE REVISED
WK	BG/NC	

LAST REVISED 10-27-97
DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 12:40

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
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B. Colamohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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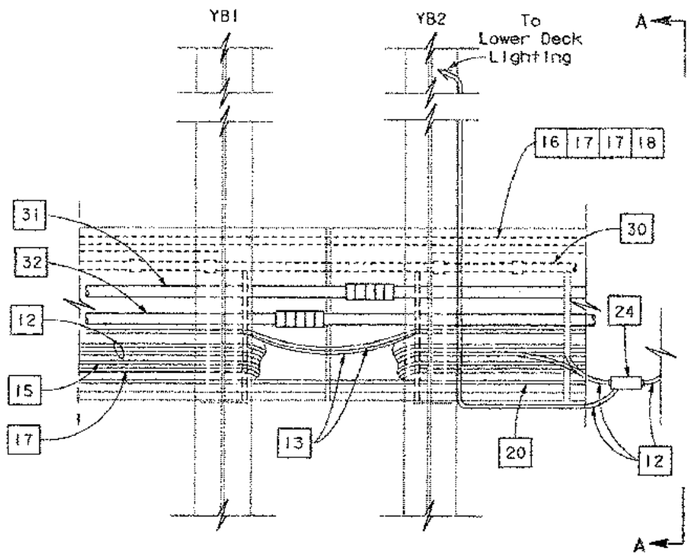
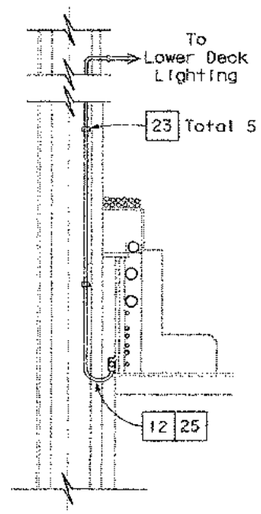
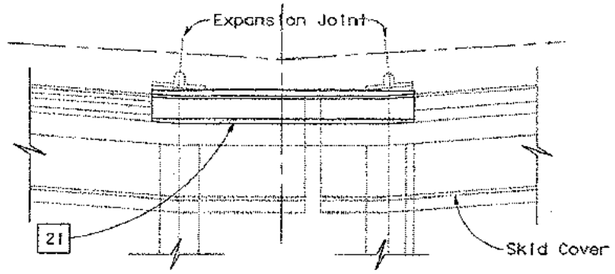
REGISTERED PROFESSIONAL ENGINEER — B. Colamohammadi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA



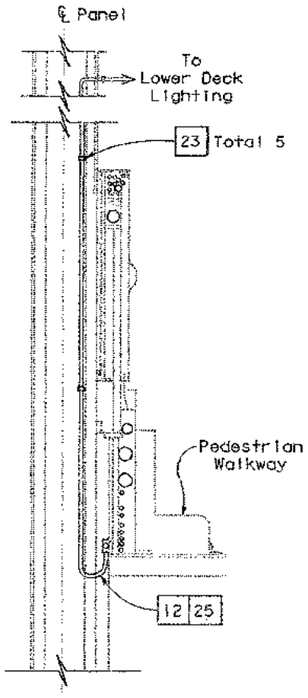
ELEVATION
PIER YB2



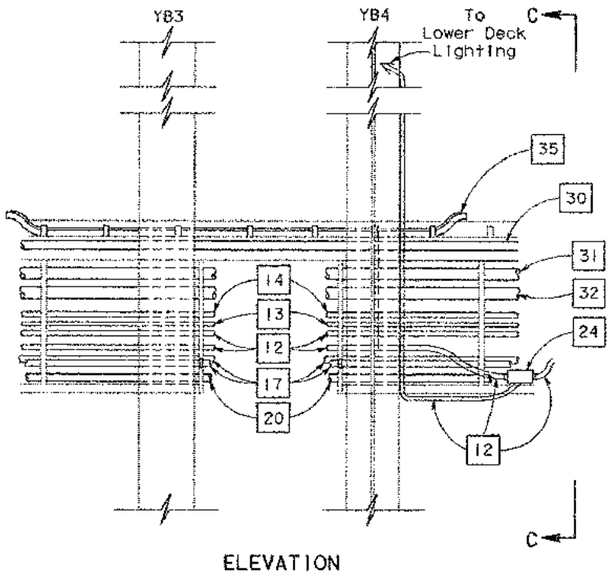
SECTION A-A



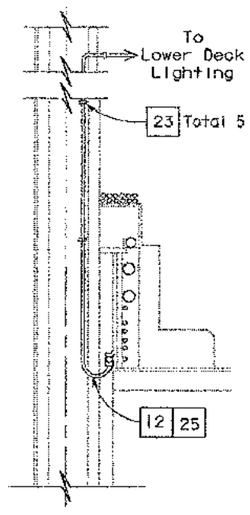
PLAN



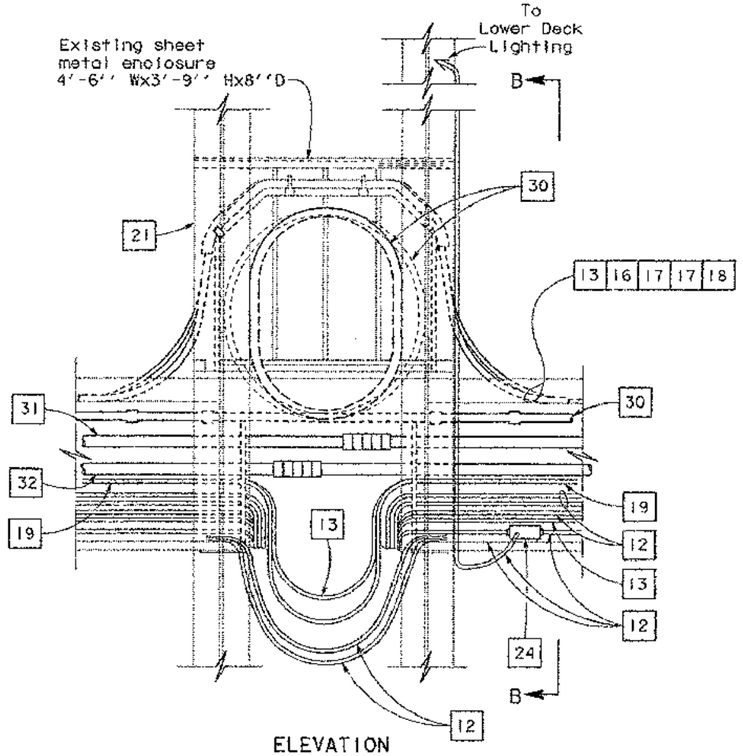
SECTION B-B



ELEVATION
PIER YB4



SECTION C-C



ELEVATION

PIER YB3

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIERS YB2 TO YB4 SOUTH-SIDE

NO SCALE

E-8

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI

CALCULATED/ DESIGNED BY	WK	DATE	REVISED BY	DATE REVISED
CHECKED BY	BG			

LAST REVISION 10-30-97 | DATE PLOTTED => 08-Dec-1997 | TIME PLOTTED => 14:49

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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CU 04259 | EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	21	205

B. Golemhammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

B. Golemhammadi No. 15283 Exp. 3-31-01 ELECT STATE OF CALIFORNIA REGISTERED PROFESSIONAL ENGINEER

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DATE	REVISED BY	DATE REVISED

CALCULATED/DESIGNED BY
CHECKED BY
WK BG/NC

PROJECT ENGINEER
BEHZAD GOLEMOHAMMADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

For details, see Part Elevation (North)
Exist 3-1"C (480V light)
See DETAIL 1
See DETAIL 2
See DETAIL 3
Existing cabinet
To San Francisco
Existing conduits and cables to remain
To Upper Deck
To Oakland
Install 1½"C, 3#6, 2#16
Install 1½"C, 250 MCM

RC Exist 1½"C, 250 MCM
RC Exist 1¼"Air Pipe
RC Exist 3-1"C, 2#6, 1¼"C, Communication Cable

DETAIL 1

RC Exist 3-1"C, 2#6, 1¼"C, Communication Cable
RC Exist 1¼"Air Pipe
RC Exist 1½"C, 250 MCM

DETAIL 2

Install 1½"C, 250 MCM
Install 1½"C, 3#8, 2#6

DETAIL 3

Install 1½"C, 250 MCM
Install 1½"C, 3#8, 2#6

VIEW A-A

To North side ¾"C Termination
RC Exist ¾"C
RC Exist Switch

VIEW B-B

PART ELEVATION
EXISTING PIER E4

Existing JB
Splice new and existing cables (3#8, 2#16, 250MCM)

PIER E4 PART ELEVATION
North

To San Francisco
To Oakland
To North side ¾"C Termination
RC Exist ¾"C
RC Exist Switch

PIER E4 PART ELEVATION
South

For dimensions refer to Structural Plans.
This Plan Accurate for Electrical Work Only

ELECTRICAL FACILITIES (SEISMIC RETROFIT) AT PIER E4

NO SCALE

E-9

LAST REVISED: DATE PLOTTED => 08-Dec-1997
10-23-97 TIME PLOTTED => 14:50

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	22	205

B. [signature] 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — S. Chinchinian — No. 15283 — 3-31-01 — ELECTRICAL — STATE OF CALIFORNIA

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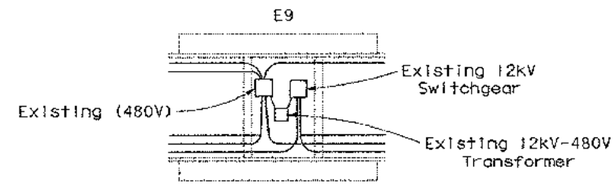
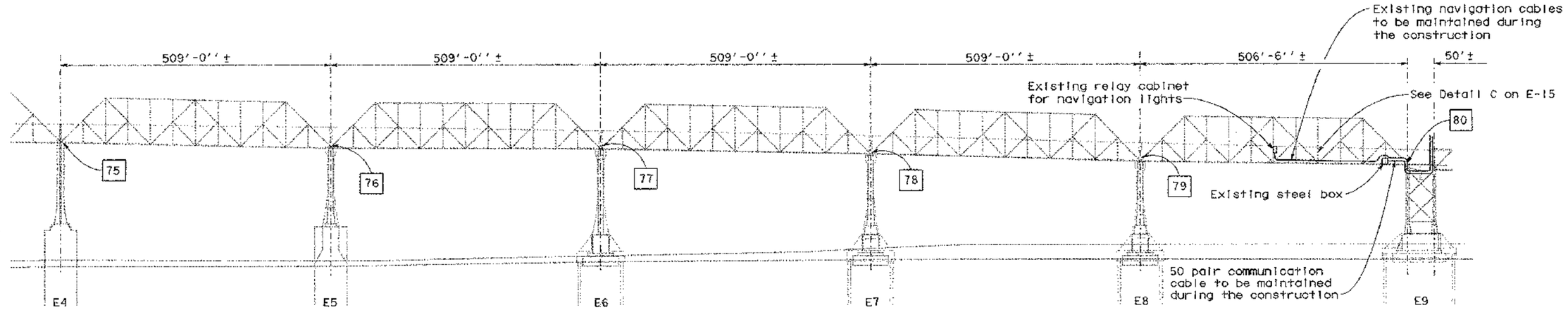
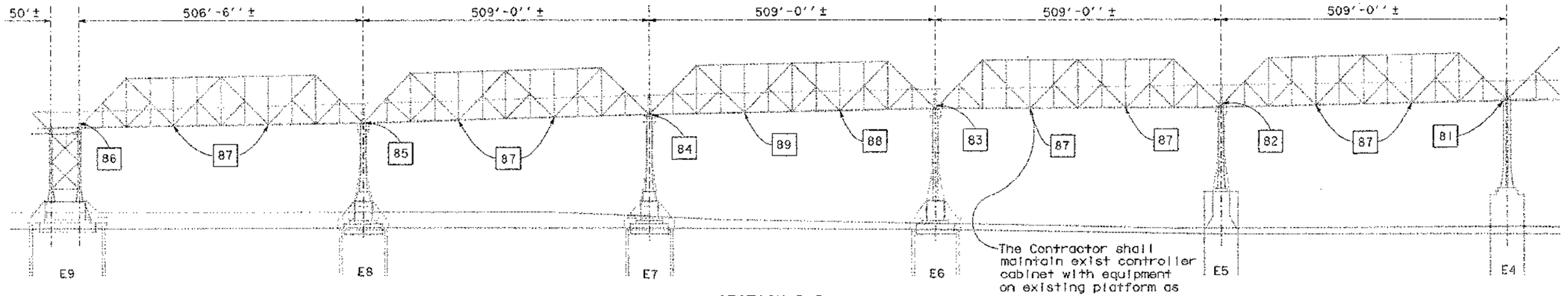


DETAIL

PLAN



SECTION A-A



SECTION B-B

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIERS E4-E9 GENERAL PLAN

NO SCALE

E-10

This Plan Accurate for Electrical Work Only
See E-1 and E-2 for Project and General Notes

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER: BERC ELDEMIR

	DATE	BY
REVISED		
DATE REVISED		
CALCULATED/DESIGNED BY	BE	
CHECKED BY	BG	

DATE PLOTTED => 09-Dec-1997
TIME PLOTTED => 14:50
LAST REVISION 10-22-97

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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CU 04250 EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	23	205

B. Colenkhamadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Colenkhamadi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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Exist cables for electrical facilities on north rails remain undisturbed

Exist navigation and communication cables to be mainted during the construction as directed by the Engineer. See E-10 for more details

Exist flex conduits for fog detection. remove conduits from structure and secure to longitudinal steel member. See Detail B on this sht

Exist Ground Cable to be maintained during the construction. See Detail B on this sht.

Exist 1'' C
The Contractor shall verify the use of this conduit. If it is in use the Contractor shall maintain it during construction. If it is abandoned the contractor shall remove the conduit as directed by the Engineer.

Exist Cables for exist electrical facilities at north rails fed from Substation E9 on north rail (both upperdeck and lowerdeck).

Exist cables for electrical facilities (from substation E9 on north rails and camera No. 13 of upperdeck

Exist 6''C, 3#1/0, 1#2 (15kV) from YBI substation The Contractor shall remove the 6'' conduit between CC and switchgear section by section without any damage to existing cables. When cable trays are located to new location, the Contractor shall install new 6'' conduit with exist cable (at lower tray) to new box and connect to exist 12kV switchgear see "Detail B" on this sheet. The distance between CC and switchgear is 60'.

Exist 1½''C 1-tvl, 1-tvc to be removed

6''C, 3#1/0, 1#2 to be removed

CC

INSERT
NO SCALE

Exist 6''C, 3#1/0, 1#2

Exist 1½''C, 1-tvl, 1-tvc to be removed

SECTION A-A
NO SCALE

To Pier E9 north east tower

LOW VOLTAGE CONTROL CENTER 480V

12kV-480V TRANS-FORMER

12kV SWITCHGEAR

Remove exist box for 15kV cable See E-17

Exist 1-tvcp cable, 1-tvp cable and exist 1½''C, 1-tvl, 1-tvc to camera No. 13 at upperdeck. Remove exist conduit and cables and install new cables as shown on E-16 and E-17, between controller #22 and camera.

Exist 1½''C, 1-tvl, 1-tvc

Exist 2-6''C, 3#1/0, 1#2 (15kV)

Move exist cable tray 2' to east. See Detail B on this sht Untie cables from tray before move. Secure to tray after the move as directed by the Engineer. Use existing mounting steel rods, steel angles and steel channels. Mounting shall be same as existing.

Remove 6' from exist tray and re-tie trays together same as existing

Exist conduits to remain undisturbed

Exist substation lights and conduit remain in place. RS lights at construction area. Reinstall salvaged light at the same locations with new conduit and conductor (1''C, 2#8) at the end of construction.

Exist Cable for exist electrical facilities on south railsfed from substation E9 (both upperdeck and lowerdeck).

Move exist cable tray 4' to west. See Detail B on this sht. Untie cables from tray before move. Secure cables to tray with wire ties after the move as directed by the Engineer. Remove the section of lower tray with radius. Use existing mounting steel rods, steel angles and steel channels. Mounting shall be same as existing.

RS 1½''C, 1-tvl, 1-tvc, 1-tvcp cable, 1-tvp cable to controller #22. See E-16 and E-17 for new cable installation

Exist cables for electrical facilities on south rails (both upperdeck and lowerdeck) fed from substation E9.

See INSERT on this sheet

Exist cables for electrical facilities on south rails (both upperdeck and lowerdeck) fed from substation E9

Remove exist 6''C, 3#1/0, 1#2 (15kV) cables after new 15kV cables are in place See E-16

Exist 6''C, 3#1/0, 1#2 (15kV) to YBI substation

DETAIL A
PLAN VIEW OF E9 BEFORE SEISMIC RETROFIT
NO SCALE

New box for 15kV cables. See E-17

6''C, 3#1/0, 1#2 (15kV) See E-16 and E-17 for continuation

Exist flex conduit for fog detection secured to steel member (min 2' away from tower)

LOW VOLTAGE CONTROL CENTER 480V

12kV-480V TRANS-FORMER

12kV SWITCHGEAR

New cables for camera No. 13 from controller #22. See E-16 and E-17

6''C, 3#1/0, 1#2 (15kV)

Exist conduits to remain undisturbed

Exist cables for exist facilities at south rails fed from substation E9(both upperdeck and lowerdeck).

Relocated cable tray

Exist cables for exist facilities at north rails fed from substation E9(both upperdeck and lowerdeck).

Remove ground wire from tower structure and secure to steel member as shown (min 2'away from tower).

Exist substation lighting conduit for exist lights. See Detail A on this sht.

Relocated cable trays, secure cables to tray with wire ties.

Exist cables for exist facilities at south rails fed from substation E9 (both decks) and new tvl, tvc, tvcp, tvp for camera No. 13 to controller #22

Existing cables for existing electrical facilities on the south rails (both upperdeck and lowerdeck) fed from substation E9.

6''C, 3#1/0, 1#2 (15kV) to YBI substation

DETAIL B
PLAN VIEW OF E9 AFTER SEISMIC RETROFIT
NO SCALE

This Plan Accurate for Electrical Work Only
See E-1 and E-2 for Project and General Notes

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIER E9 SUBSTATION

NO SCALE

E-11

LAST REVISION DATE PLOTTED => 08-Dec-1997
10-22-97 TIME PLOTTED => 14:51

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER — BERC ELDERMIR

CALCULATED/DESIGNED BY | CHECKED BY | BE | BG/NC | DATE | REVISED BY | DATE REVISED

FOR REDUCED PLANS ORIGINAL 0 1 2 3

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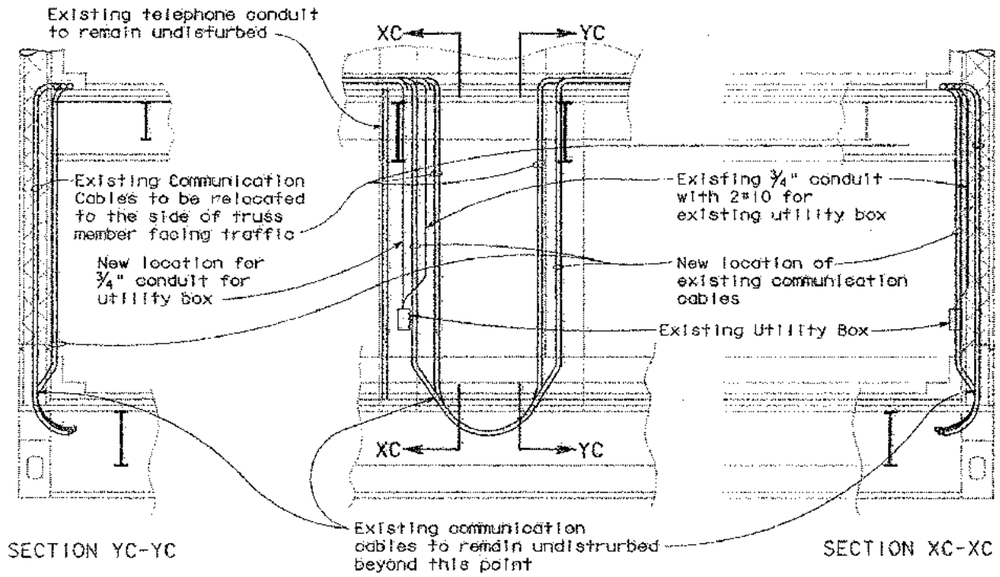


SECTION YC-YC

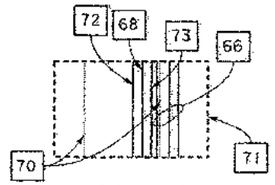
SECTION XC-XC

SECTION C-C
PIER E4

The Contractor shall remove clamps from existing communication cables and relocate as shown above and secure to structure with PVC coated steel clamps. When retrofit work is completed, the Contractor shall locate cables to their original location and secure to new plate with PVC coated steel clamps. The Contractor shall install new ¾" conduit for utility box (at new location shown above) and splice to existing conduit at upperdeck rail as directed by the Engineer. The Contractor shall remove existing conduit and re-route existing conductors to existing utility box. The new conduit remain in place after retrofit work is completed.

SECTION YE-YE

SECTION E-E
PIER E6



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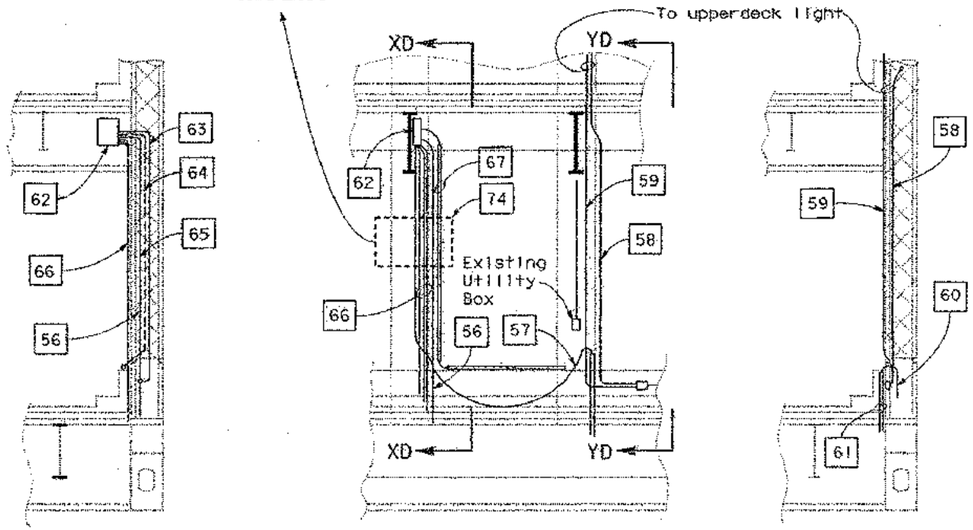
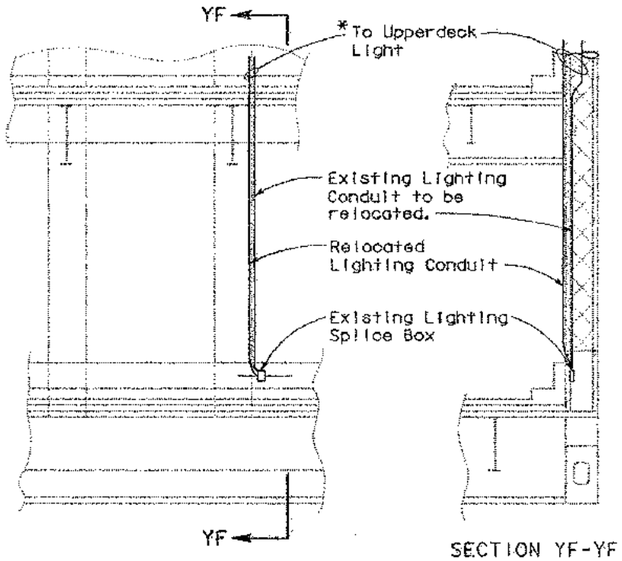


SECTION XD-XD

SECTION YD-YD

SECTION D-D
PIER E5



SECTION YF-YF

SECTION F-F
PIER E7

* The distance between upperdeck light fused disconnect and existing lighting splice box is 30'.

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

PIERS E4 TO E9 SECTION DETAILS

No Scale

E-12

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	24	205

B. Ghirardelli 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

REGISTERED PROFESSIONAL ENGINEER — B. Ghirardelli — No. 15283 — Exp. 3-31-97 — ELECTR — STATE OF CALIFORNIA

This Plan Accurate for Electrical Work Only
See E-1 and E-2 for Project and General Notes

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER: BERC ELDEMIR

DATE	REVISED BY	DATE REVISED
BE	BG/NC	

CALCULATED/DESIGNED BY
CHECKED BY

FOR REDUCED PLANS ORIGINAL 0 1 2 3

USERNAME => frmikesl

CU 04259 EA 043001

DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 14:51
10-23-97

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	25	205

B. Goleshorodi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Goleshorodi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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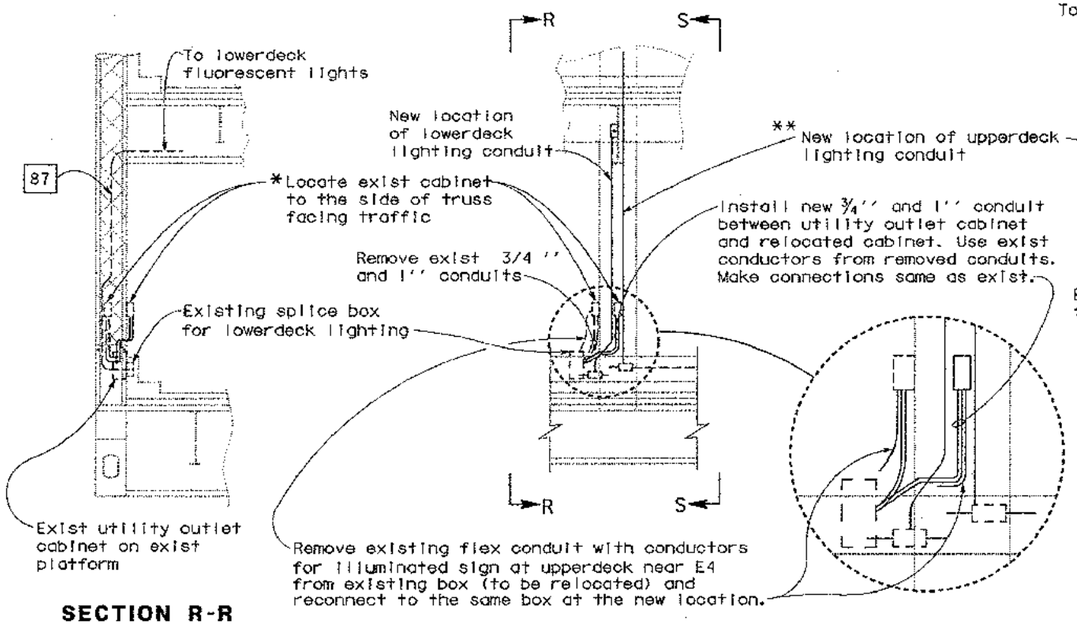
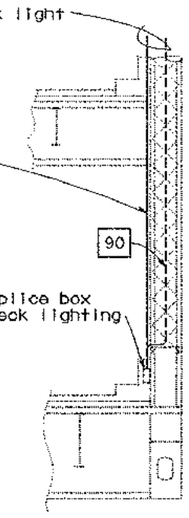


SECTION R-R

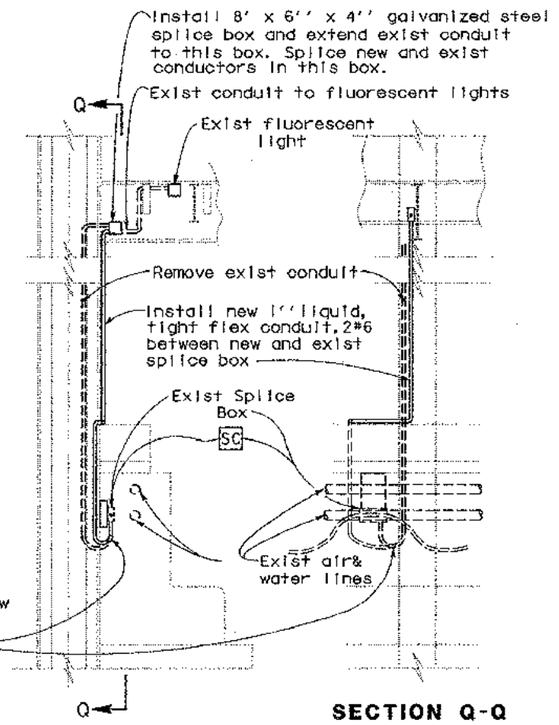


SECTION S-S

DETAIL E

* Existing cabinet with Sign disconnect for upperdeck sign lighting

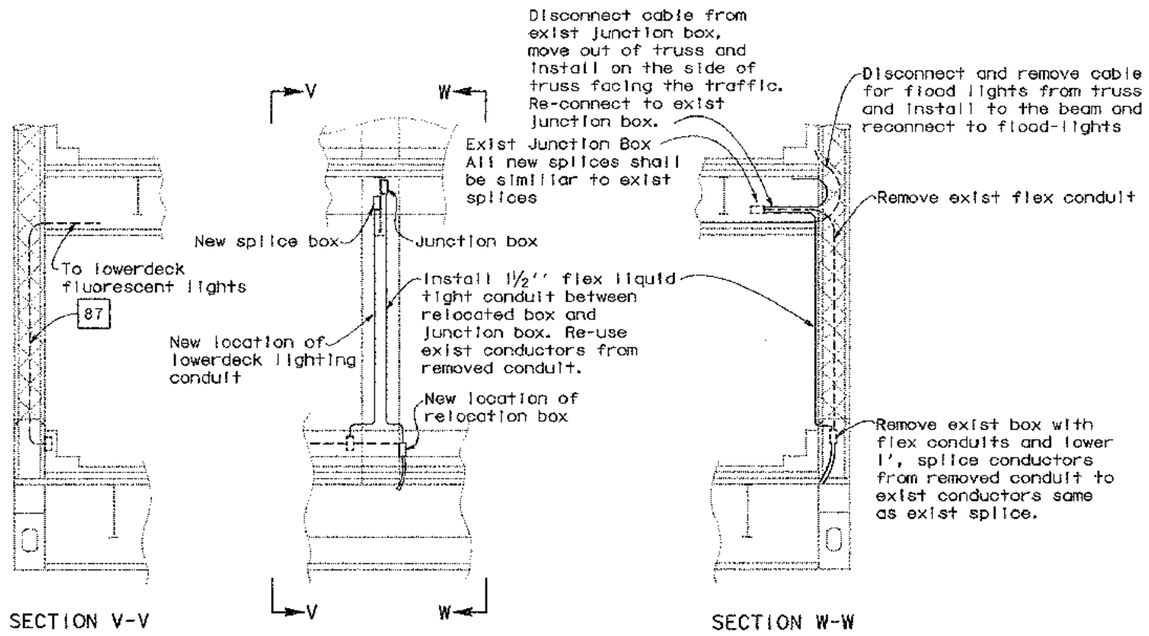
** The distance between upperdeck light fused disconnect and existing lighting splice box is 30'.



SECTION Q-Q

DETAIL D

NOTE: The length of new flex conduit (between exist splice box and new splice box) with 2#6 is 30'.



SECTION V-V

SECTION W-W

DETAIL F

This Plan Accurate for Electrical Work Only
See E-1 and E-2 for Project and General Notes

NO SCALE

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIERS E4 TO E9 SECTION DETAILS

E-13

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER: BERC ELDEMIR

DATE	REVISED BY	CALCULATED/ DESIGNED BY
	DATE REVISED	CHECKED BY
BE	BG/ NC	

LAST REVISION: DATE PLOTTED => 08-Dec-1997 TIME PLOTTED => 14:41
10-23-97

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	26	205

B. Gilles Ebersold 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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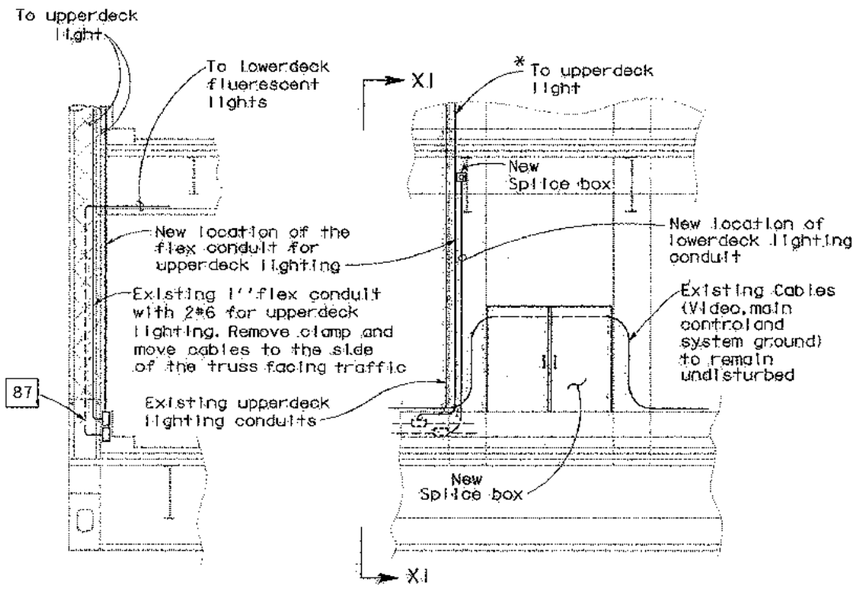
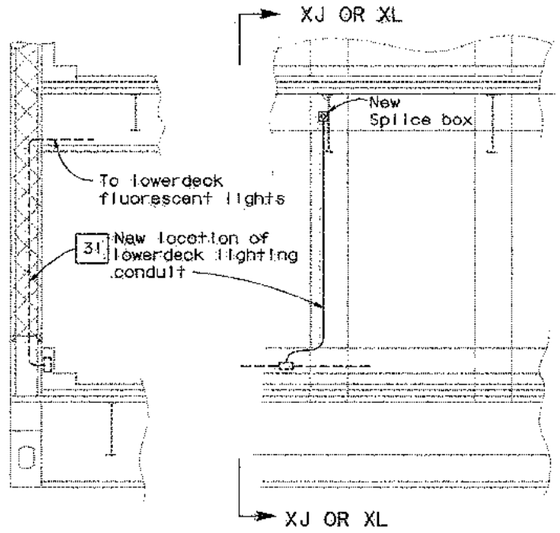
B. Gilles Ebersold No. E5285 Exp. 3-31-01 ELECTRICAL STATE OF CALIFORNIA



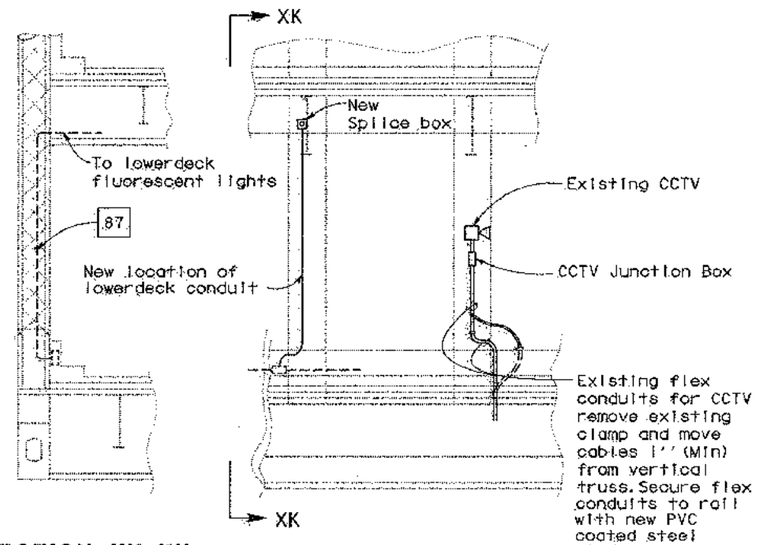
SECTION XI-XI

SECTION I-I
PIER E4



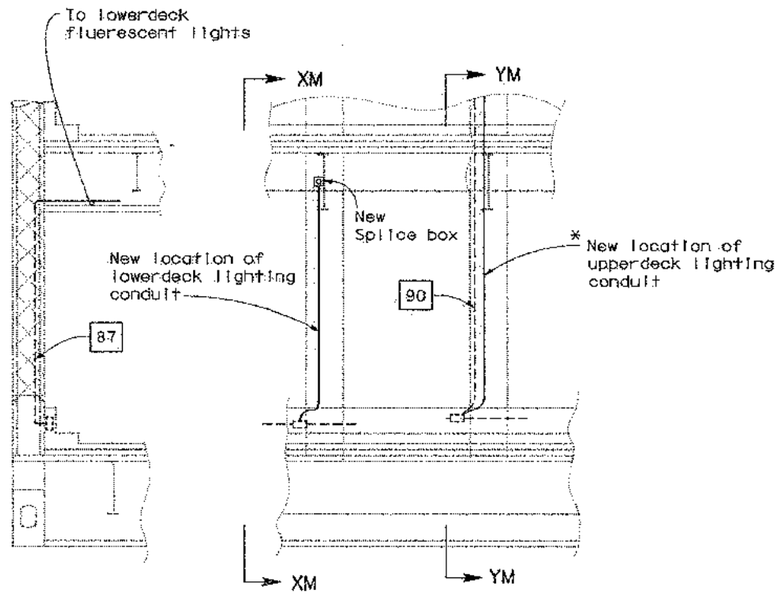
SECTION XJ-XJ
OR
XL-XL

SECTION J-J
OR
L-L
PIER E5 AND E7
The Section J-J and L-L are similar



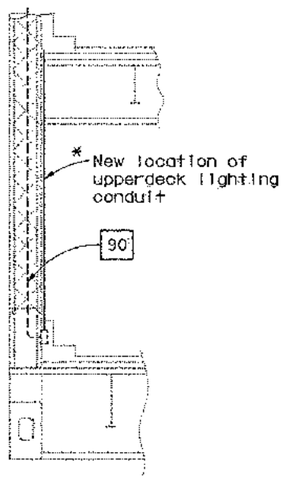
SECTION XK-XK

SECTION K-K
PIER E6

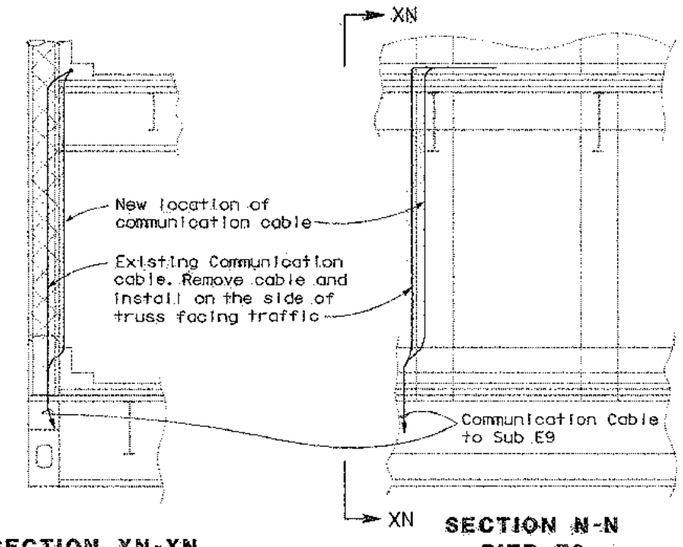


SECTION XM-XM

SECTION M-M
PIER E8



SECTION YM-YM



SECTION XN-XN

SECTION N-N
PIER E9

* The distance between upperdeck light fused disconnect and existing lighting splice box is 30'.

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIERS E4 TO E9 SECTION DETAILS

This plan accurate for electrical work only
See E-1 and E-2 for project and General Notes

No Scale

E-14

DATE REVISED | BY | DATE REVISED | BY
BE | BG | BE | BG
CALCULATED/DESIGNED BY | CHECKED BY
PROJECT ENGINEER: BERC ELDEMIR

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

LAST REVISED 10-23-97 | DATE PLOTTED => 08-Dec-1997 | TIME PLOTTED => 14:59

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3 | USERNAME => tmiklesl | CU 04259 | EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	27	205

B. Colenkhamedi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Colenkhamedi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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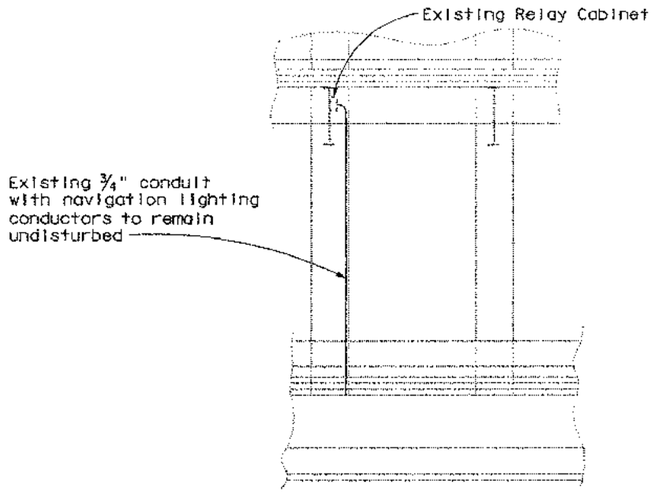
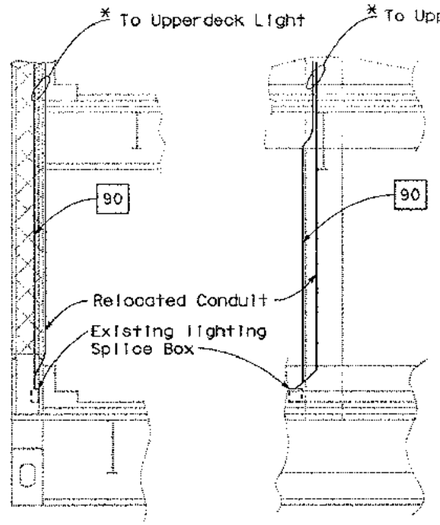
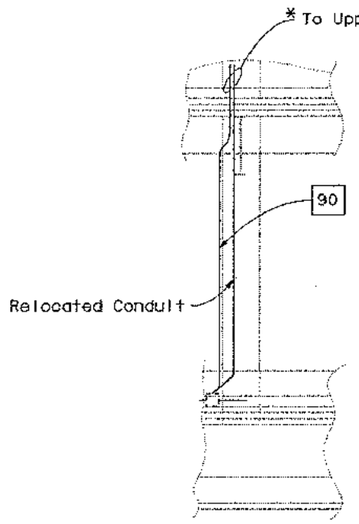
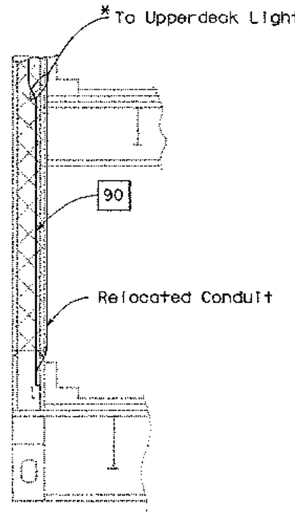


SECTION G-G
PIER E8



SECTION H-H
PIER E9





DETAIL C

* The distance between upperdeck light fused disconnect and existing lighting splice box is 30'.

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER: BERC ELDEMIR

DATE	REVISED BY	DATE REVISED
BE	BG/NC	

CALCULATED/DESIGNED BY
CHECKED BY

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

PIERS E4 TO E9 SECTION DETAILS

This plan accurate for electrical work only
See E-1 and E-2 for project and General Notes

No Scale

E-15

LAST REVISION DATE PLOTTED => 08-Dec-1997
10-23-97 TIME PLOTTED => 15:04

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	28	255

B. Mostafavi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Mostafavi — No. 15283 — EXP. 3-31-01 — ELECT. — STATE OF CALIFORNIA

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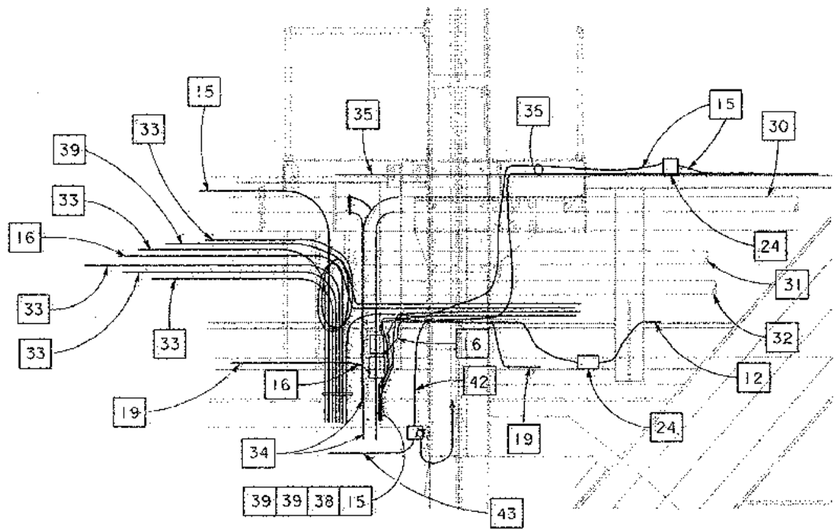
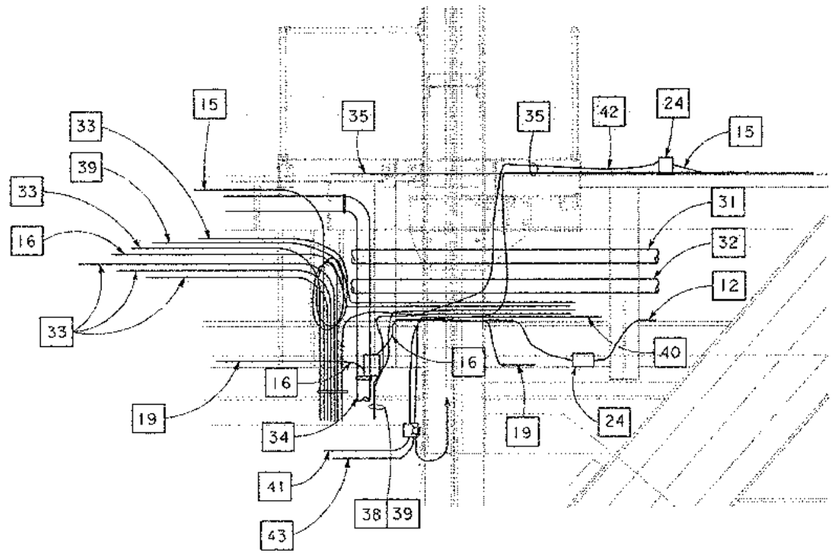
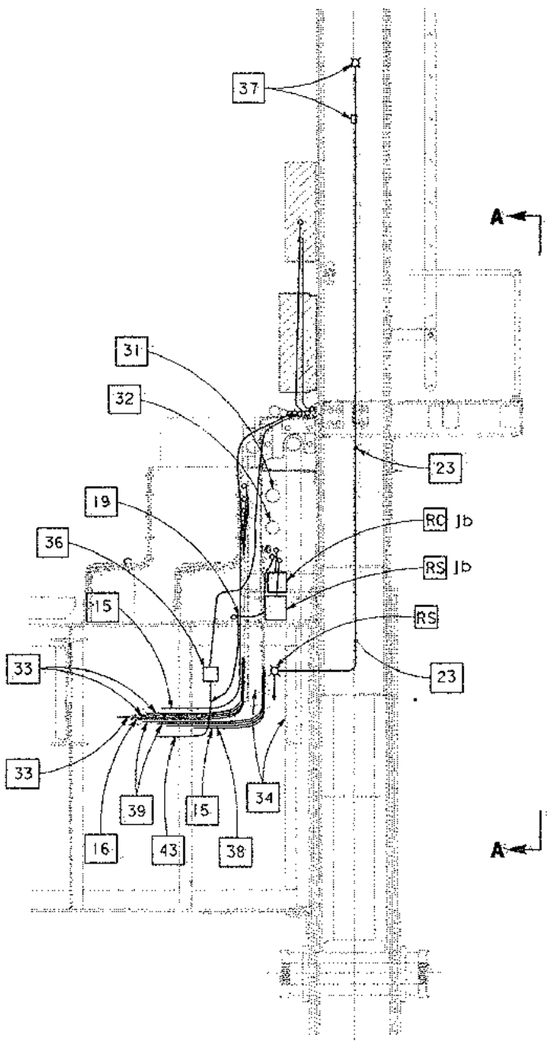


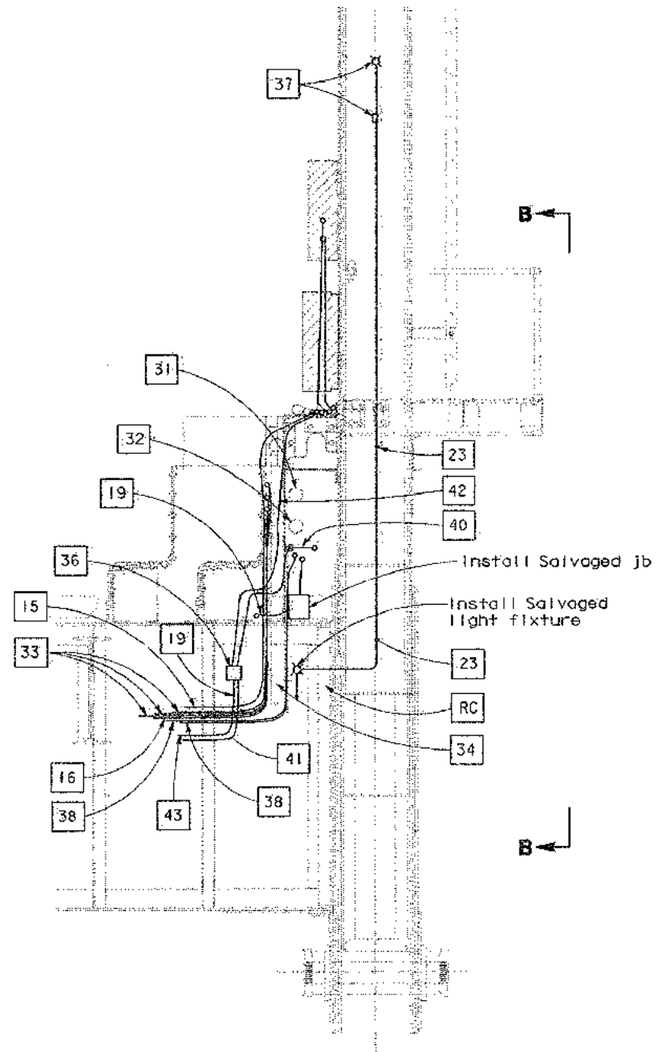
SECTION A-A



SECTION B-B



BEFORE STRUCTURAL RETROFIT
PIER E9 ELEVATION



AFTER STRUCTURAL RETROFIT
PIER E9 ELEVATION

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY
CHECKED BY: BG
DATE: WK
REVISED BY
DATE REVISED

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIER E9-SOUTH SIDE

NO SCALE

E-16

This Plan Accurate for Electrical Work Only

LAST REVISION 10-30-97
DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 15:04

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-05]404300ul6.pss

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	29	205

R. Gilchrist 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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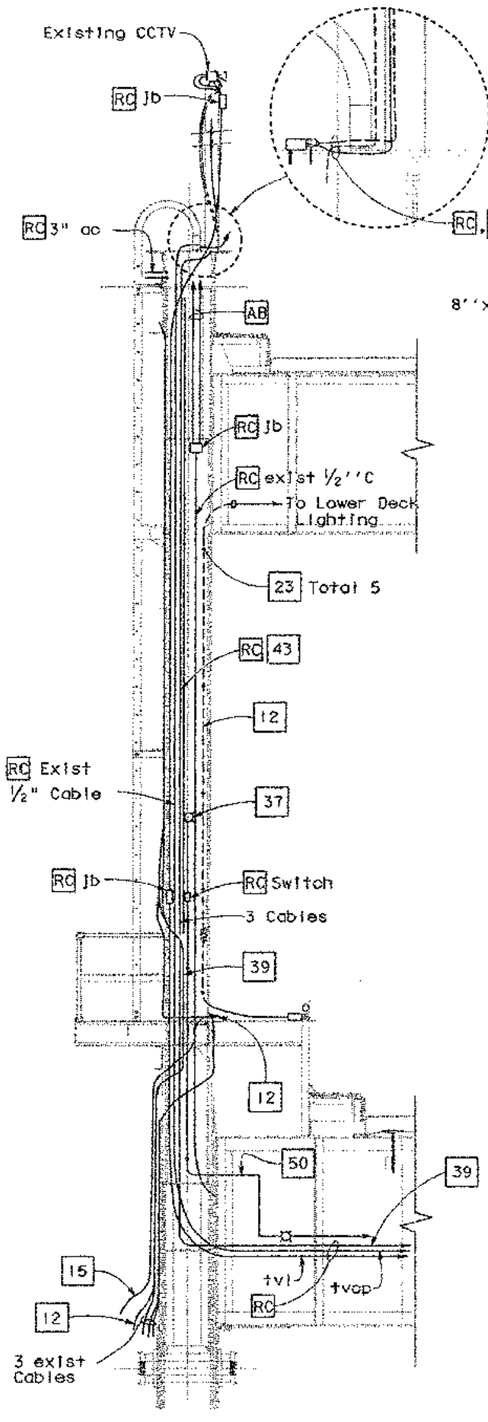
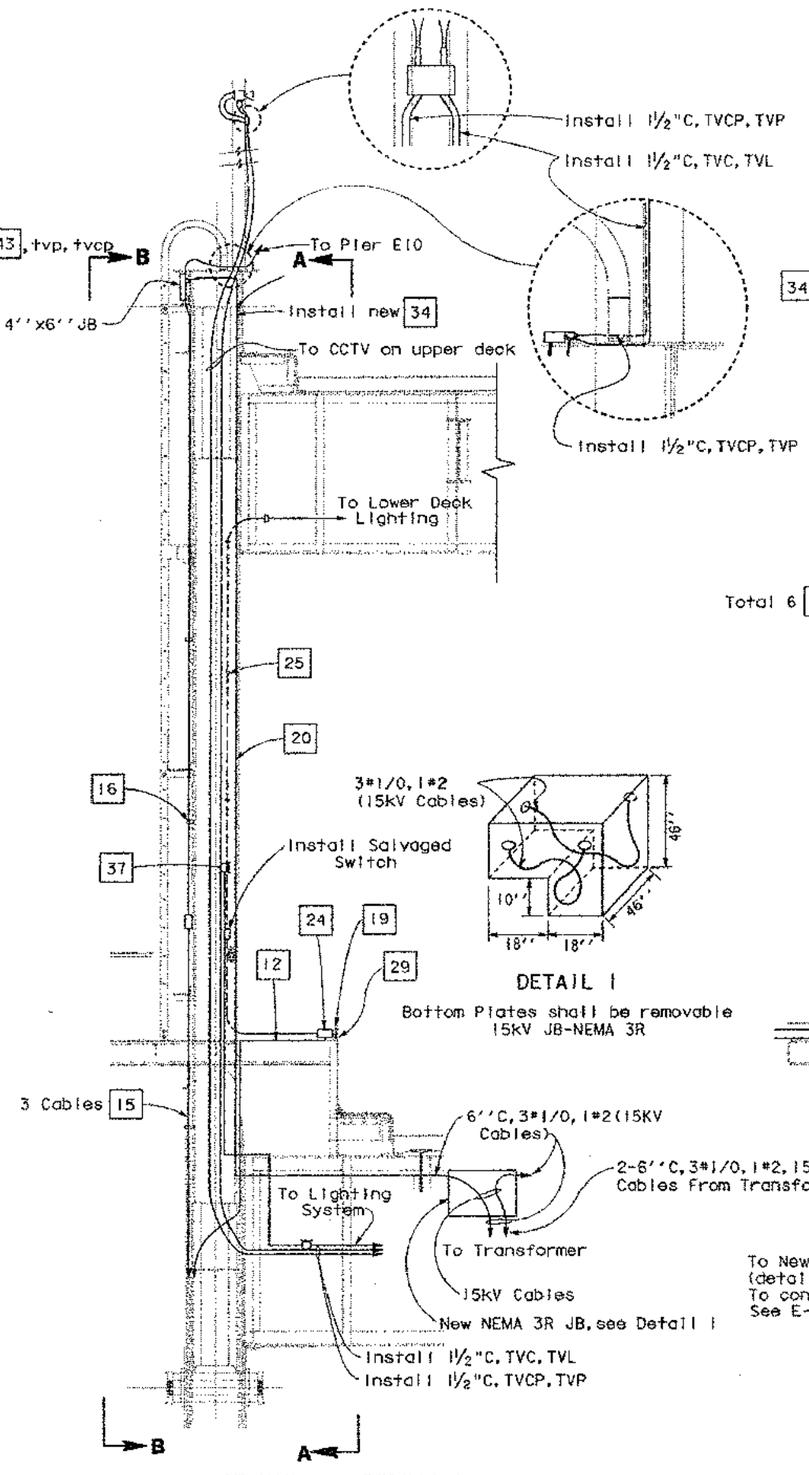
REGISTERED PROFESSIONAL ENGINEER — R. Gilchrist — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

NOTES

1. For CCTV cables connection details, see E-24 & E-25.
2. For typical lower deck lighting and upperdeck lighting relocation details, see E-19.

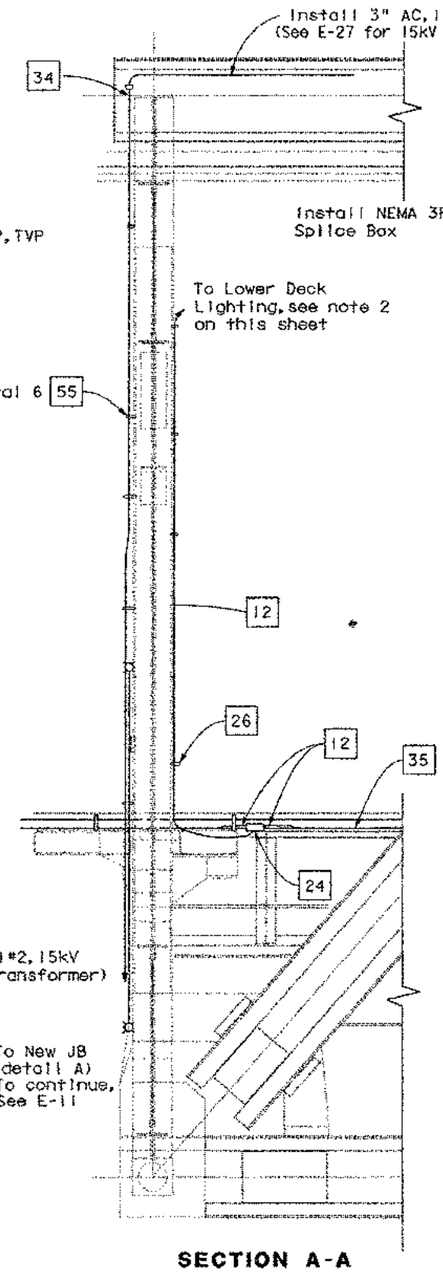


BEFORE STRUCTURAL RETROFIT
PIER E9

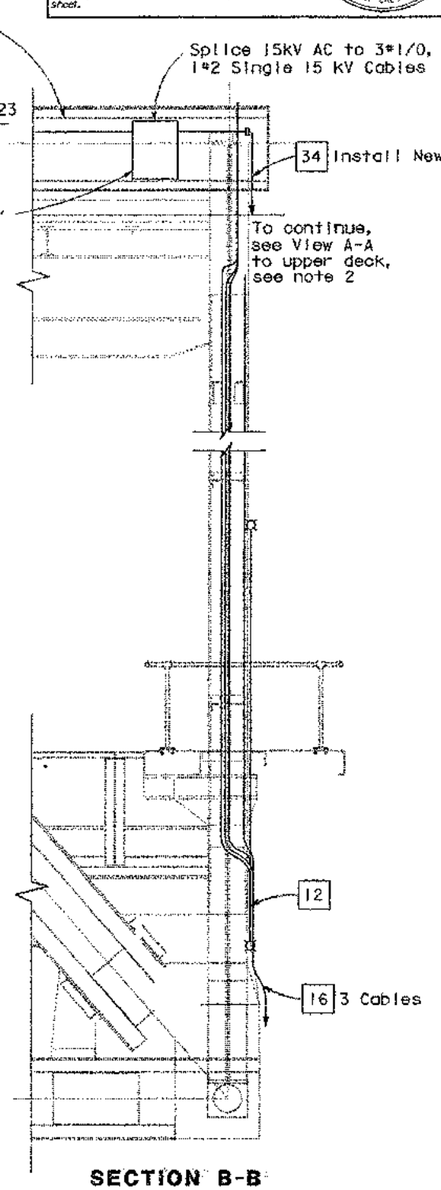


DETAIL 1
Bottom Plates shall be removable 15kV JB-NEMA 3R

AFTER STRUCTURAL RETROFIT
PIER E9



SECTION A-A



SECTION B-B

ELECTRICAL FACILITIES (SEISMIC RETROFIT) AT PIER E9-NORTH SIDE

NO SCALE

E-17

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY
CHECKED BY
BG/NC
WK
DATE REVISED BY
DATE REVISED

LAST REVISION 10-30-97
DATE PLOTTED => 06-Dec-1997
TIME PLOTTED => 15:05

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CU 04259
EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 6.0/1.1	30	206

B. Gholamhosseini 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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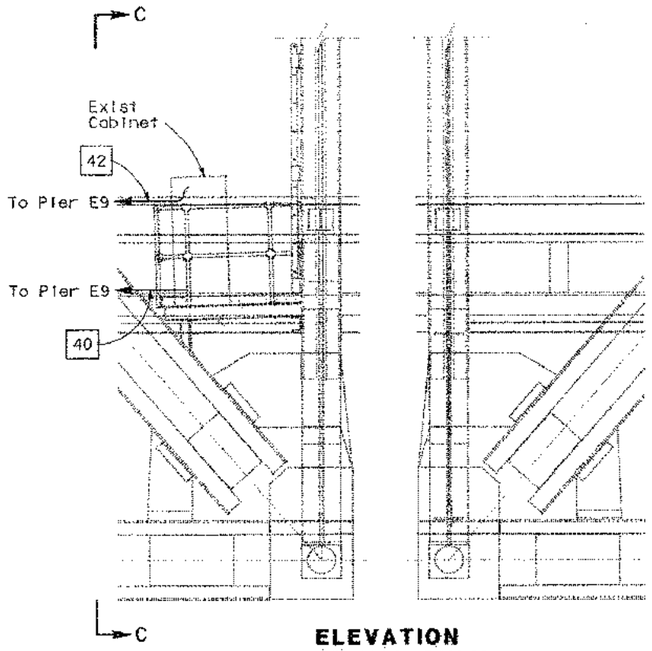
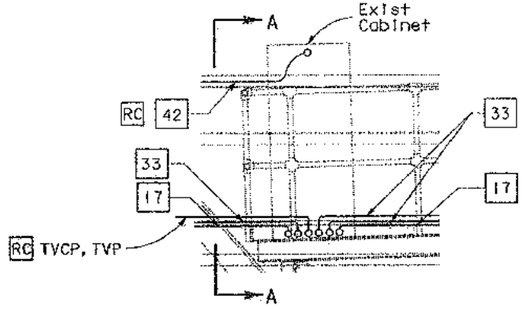
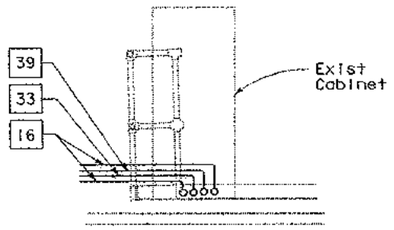
REGISTERED PROFESSIONAL ENGINEER — B. Gholamhosseini — No. 15293 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA



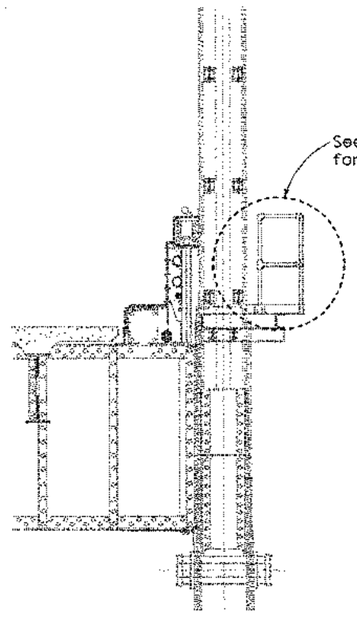
ELEVATION
PIER E10 ONLY



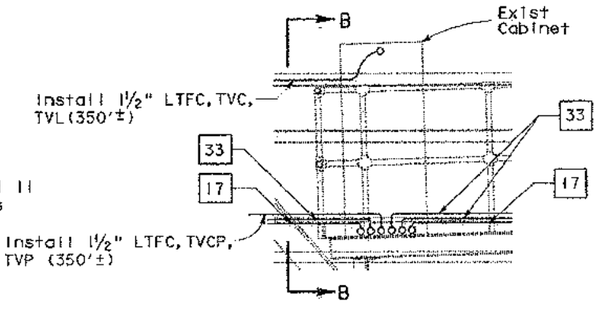
BEFORE STRUCTURAL RETROFIT
DETAIL I



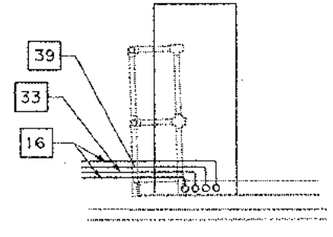
VIEW A-A



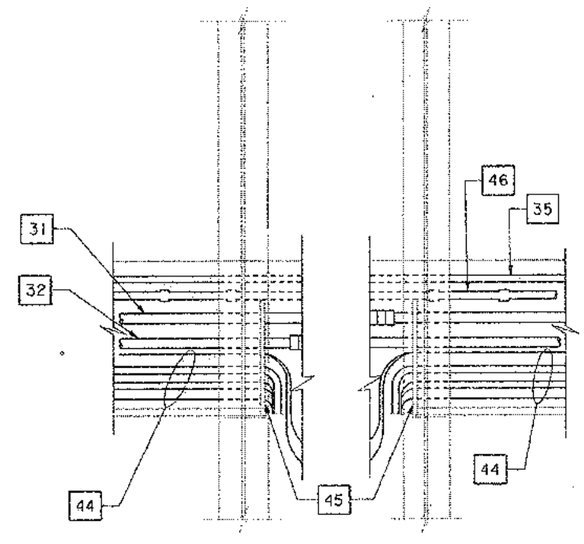
SECTION C-C



AFTER STRUCTURAL RETROFIT
DETAIL II



VIEW B-B



TYPICAL WORK FOR SOUTH SIDE
PIERS E10 to E17

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
SOUTH PIERS E10 TO E17

NO SCALE

E-18

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI

DATE	REVISED BY	DATE REVISED

WK
CALCULATED/DESIGNED BY: BG/NC
CHECKED BY:

LAST REVISION 10-30-97
DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 15:50

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DGN FILE => tesc-oe1404300u18.psf

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	31	205

B. [signature] 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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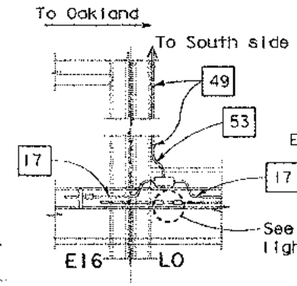
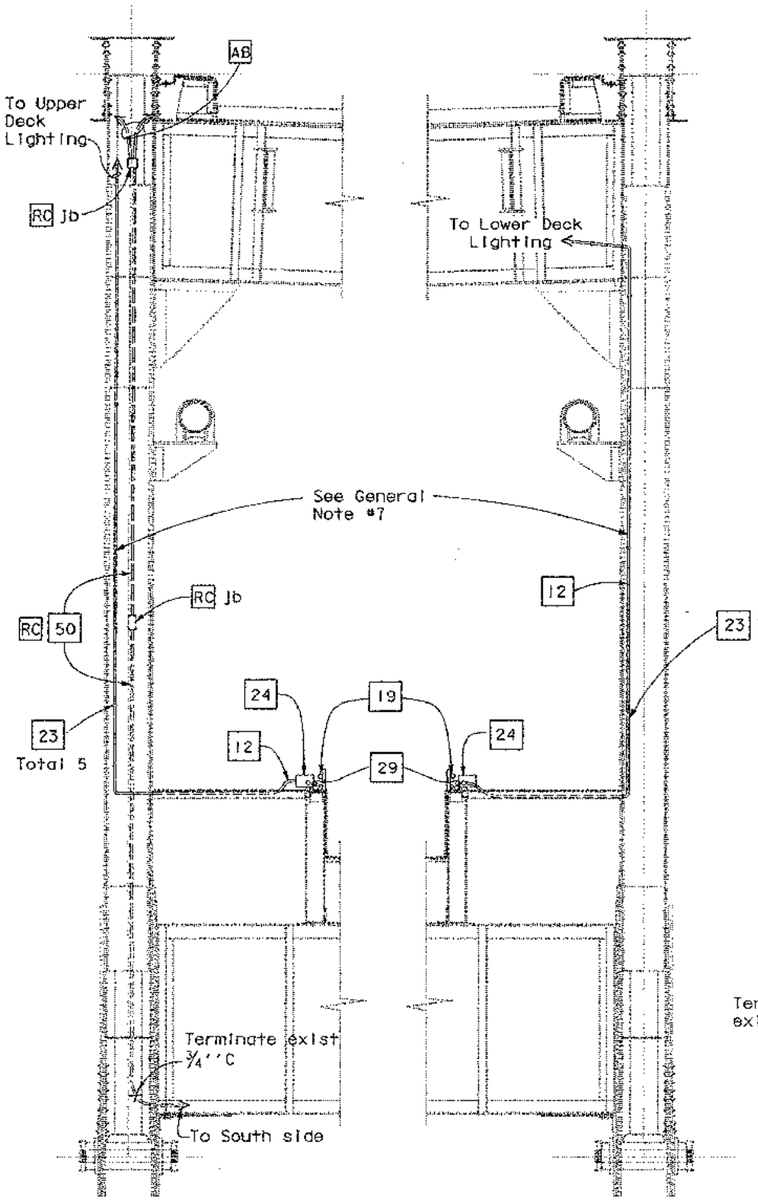
REGISTERED PROFESSIONAL ENGINEER — B. Golemohamadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA

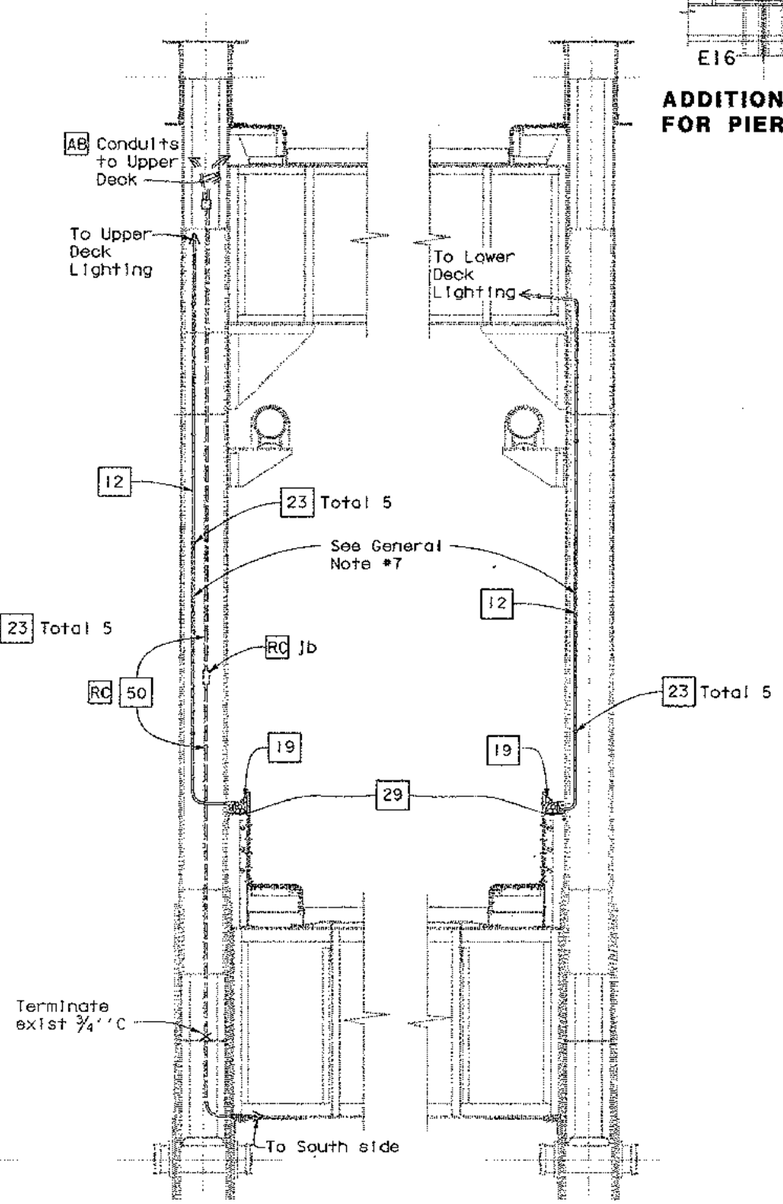


ADDITIONAL WORK FOR PIER 16 ONLY



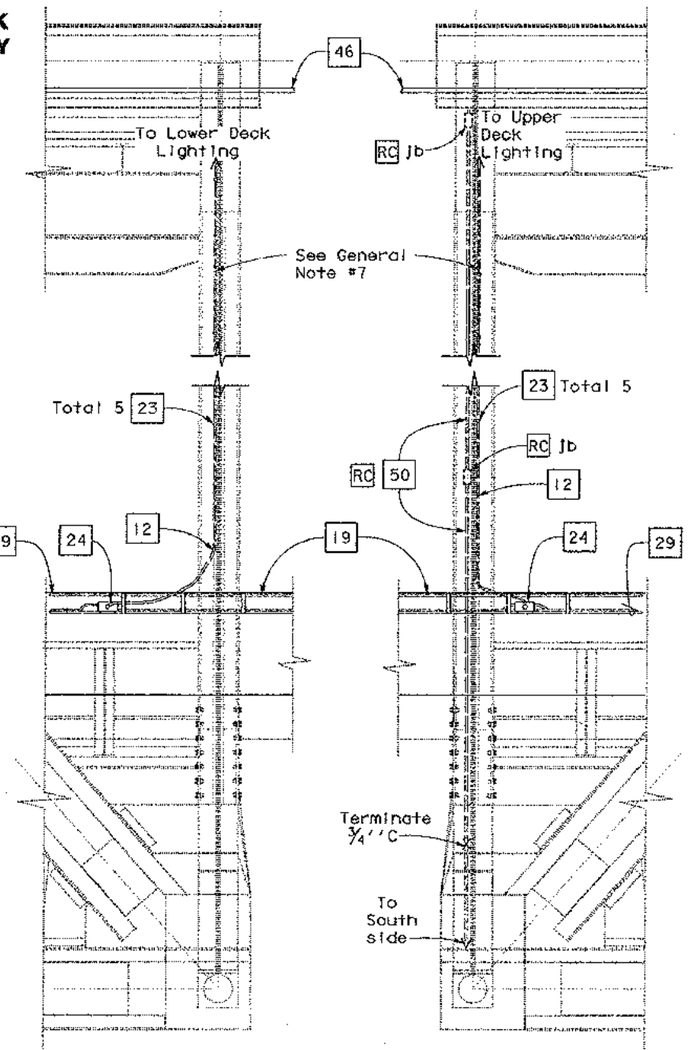
LOOKING EAST — LOOKING WEST

NORTH SIDE LIGHTING
PIERS E9 TO E10



LOOKING EAST — LOOKING WEST

NORTH SIDE LIGHTING
PIER E11 TO PIER E17



NORTH ELEVATION
TYPICAL FOR PIERS E9 TO E17

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
NORTH PIERS E9 TO E17
BEFORE STRUCTURE RETROFIT

This Plan Accurate for Electrical Work Only

NO SCALE

E-19

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY: WK
CHECKED BY: BG/NC
DATE REVISED
REVISED BY
DATE

LAST REVISION: DATE PLOTTED => 08-Dec-1997
10-31-97 TIME PLOTTED => 15:31

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-0E]404300ul9.dgn

CU 04259 | EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF,Ala	80	7.8/8.9, 0.0/1.1	32	205

10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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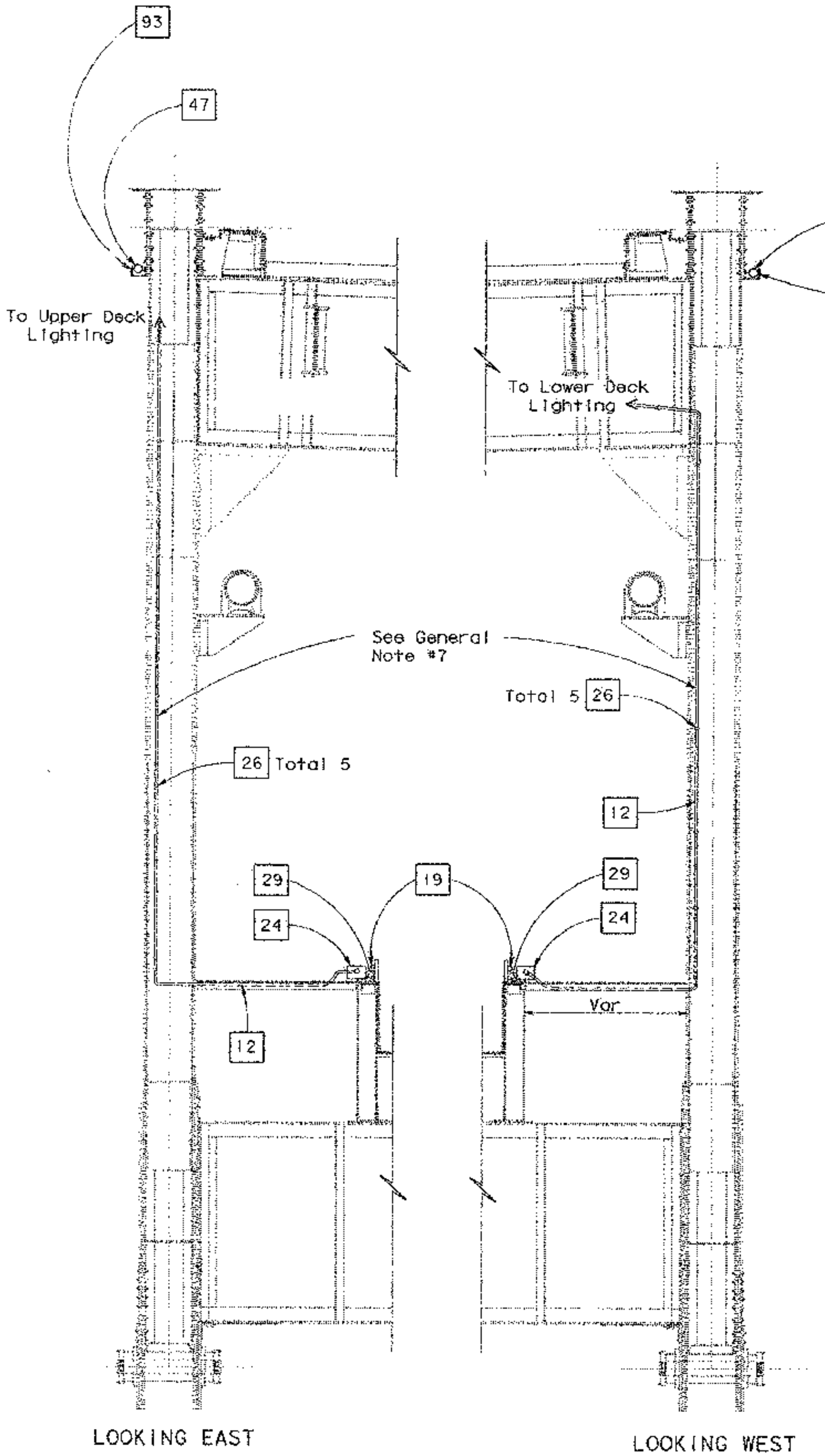
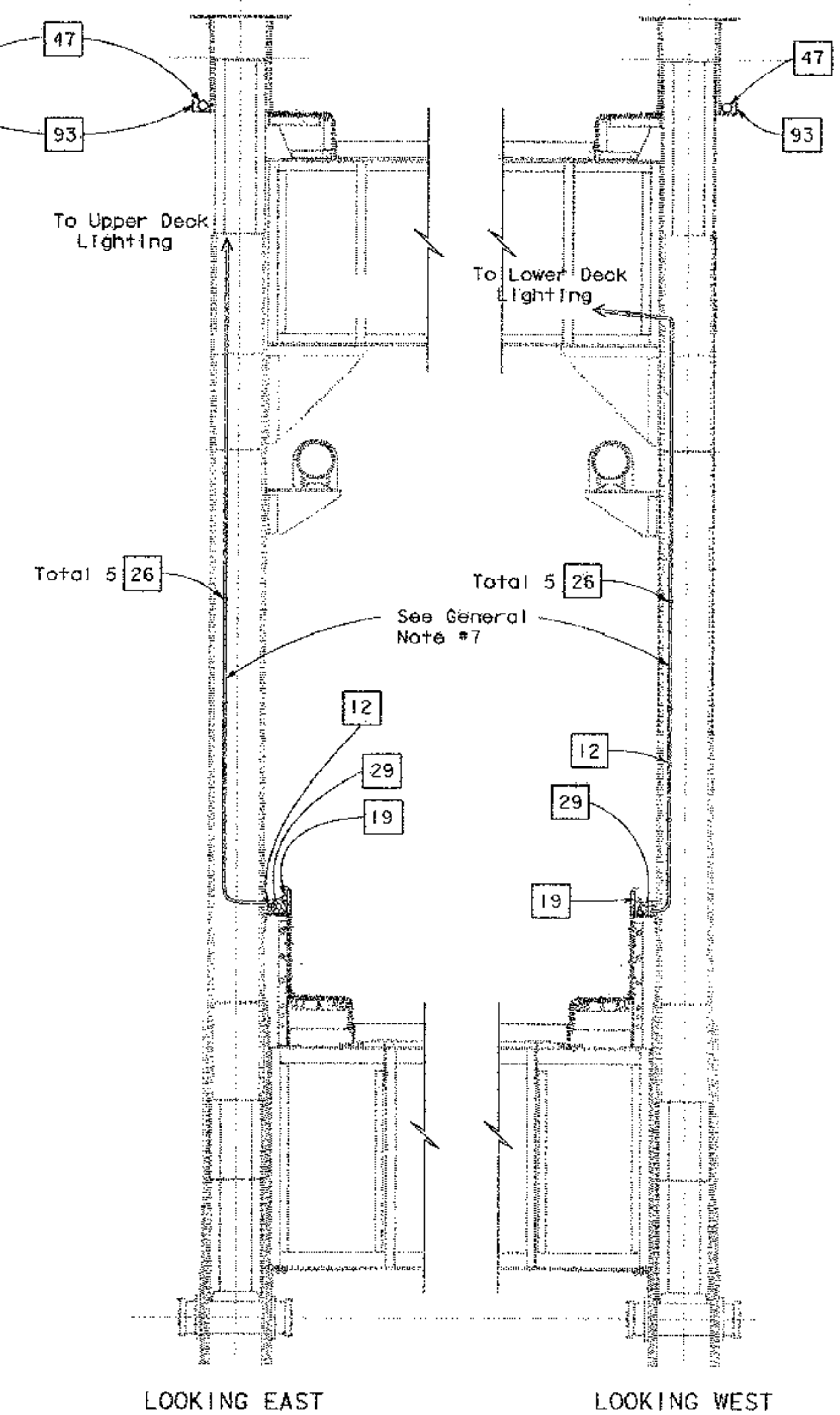
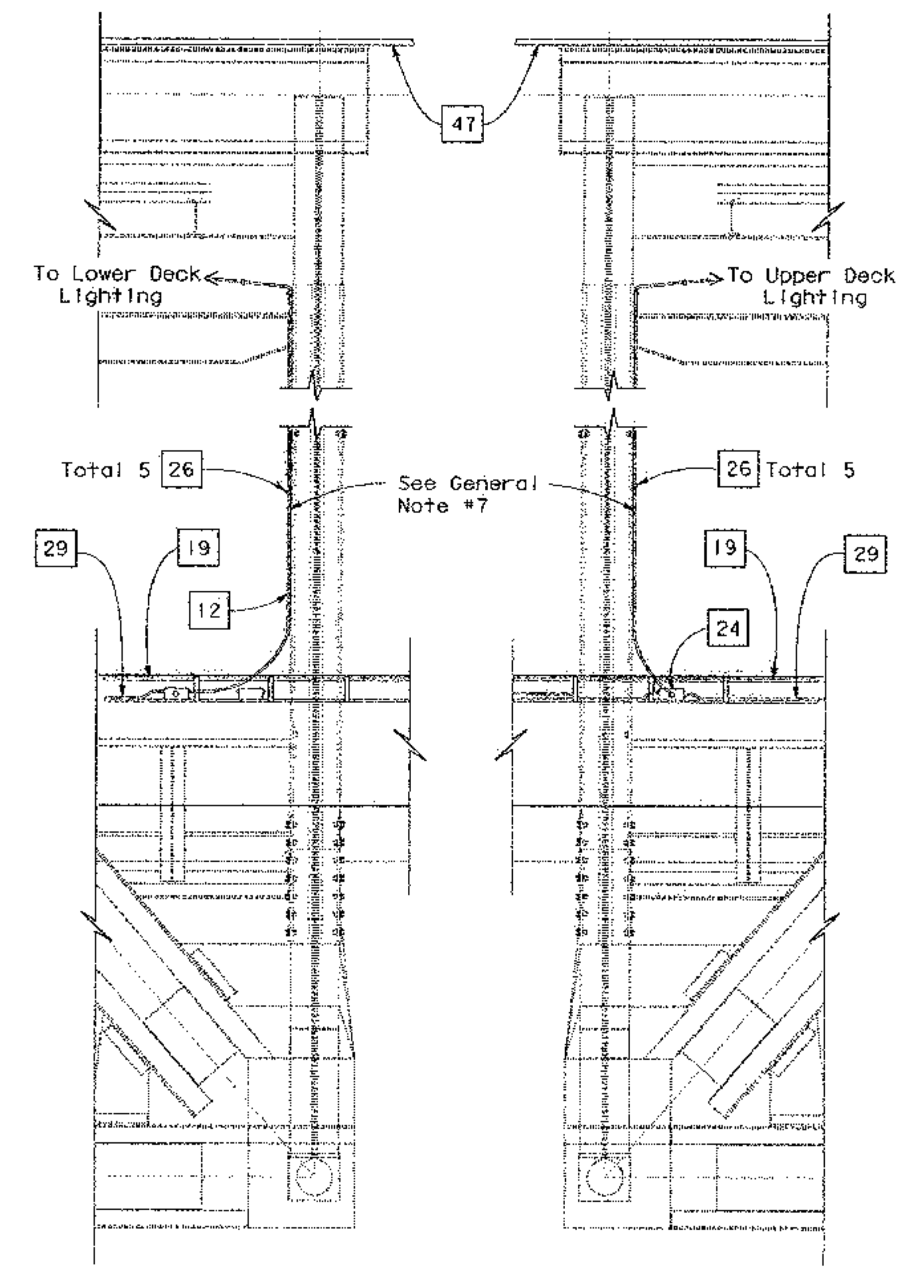
REGISTERED PROFESSIONAL ENGINEER No. 15283 Exp. 3-31-01 ELECT. STATE OF CALIFORNIA



NORTH SIDE LIGHTING
TYPICAL FOR PIERS E9 AND E10



NORTH SIDE LIGHTING
TYPICAL FOR PIERS E11 TO E17



NORTH ELEVATION
TYPICAL FOR PIERS E9 TO E17

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
TYPICAL LIGHTING
NORTH PIERS E9 TO E17
AFTER STRUCTURAL RETROFIT

NO SCALE

E-20

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER	CALCULATED/DESIGNED BY	WK	DATE	REVISED BY
BEHZAD GOLEMOHAMMADI	CHECKED BY	BG		DATE REVISED

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME => trphilis

CU 04259 EA 04300

LAST REVISION 10-31-97 DATE PLOTTED => 08-Dec-1997 TIME PLOTTED => 15:35

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	33	205

B. Golestaneh 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golestaneh — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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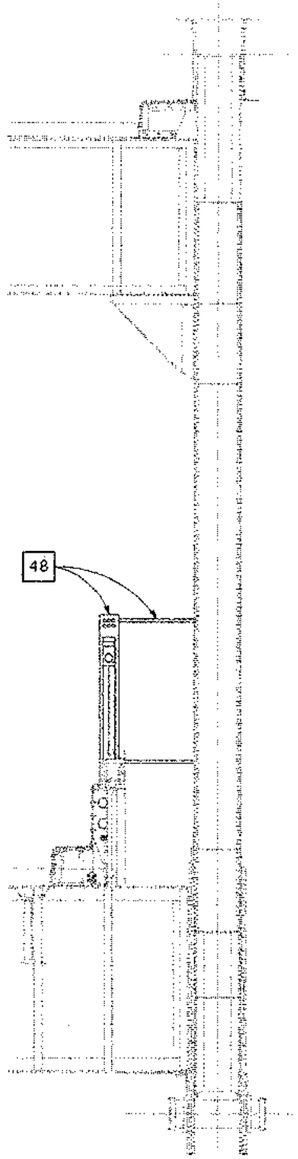
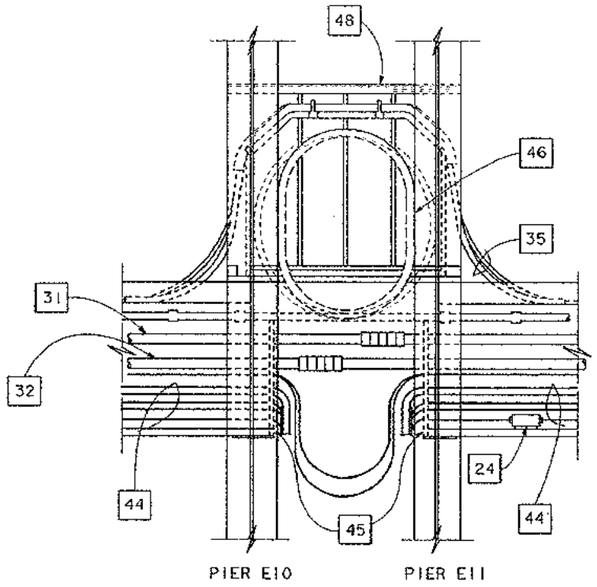
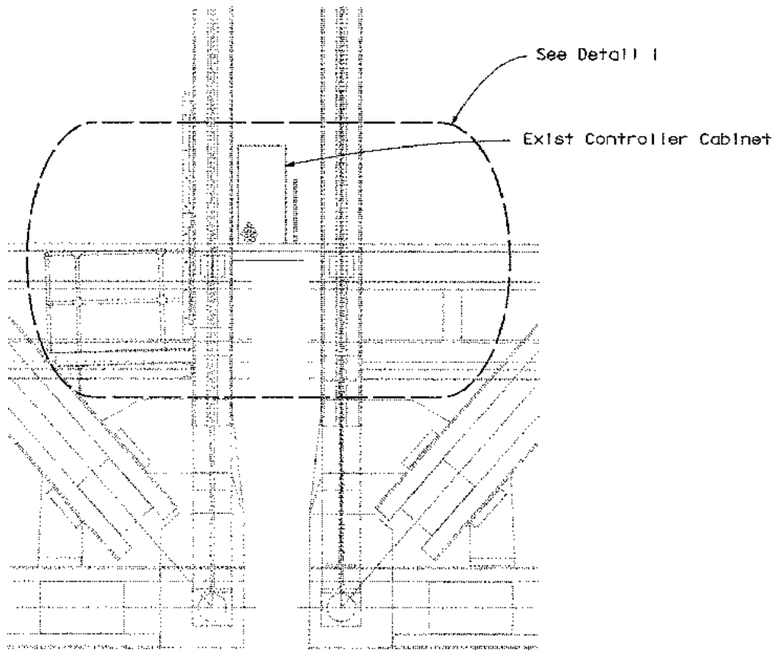


LOOKING EAST

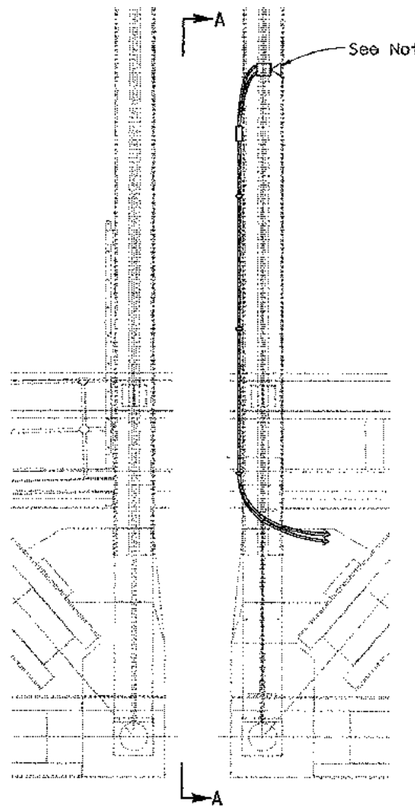
ELEVATION
PIER E11



DETAIL 1



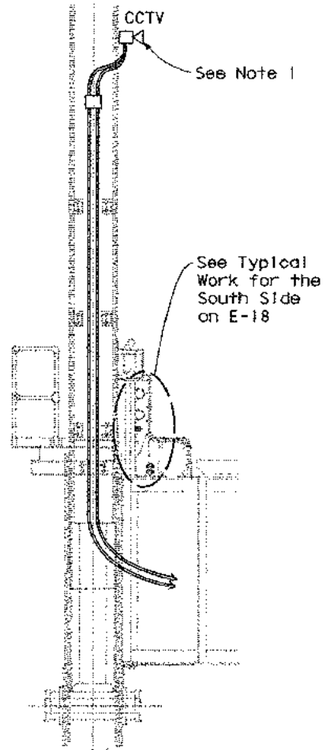
ELEVATION
PIER E11



ELEVATION
PIER E12

NOTE

1. For RR CCTV Detail, see E-24 & E-25.



SECTION A-A

ELECTRICAL FACILITIES (SEISMIC RETROFIT) AT SOUTH PIERS E11 to E12

NO SCALE

E-21

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY: WK
CHECKED BY: BG / NG
DATE REVISED BY: DATE REVISED

LAST REVISION 10-31-97 | DATE PLOTTED => 08-Dec-1997 | TIME PLOTTED => 15:35

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-OF1404300]21.dgn

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala.	80	7.8/8.9, 0.0/1.1	34	205

B. Golmohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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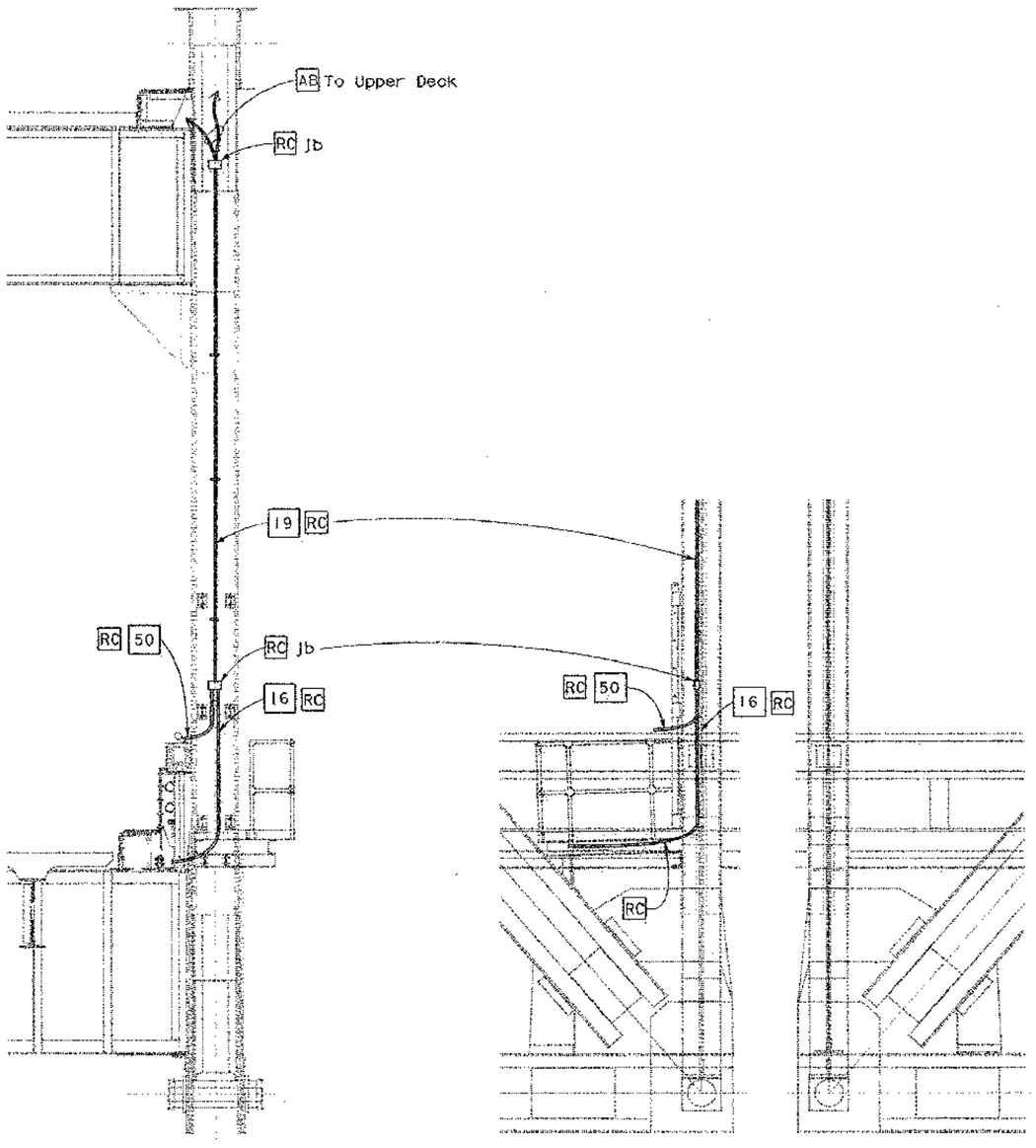
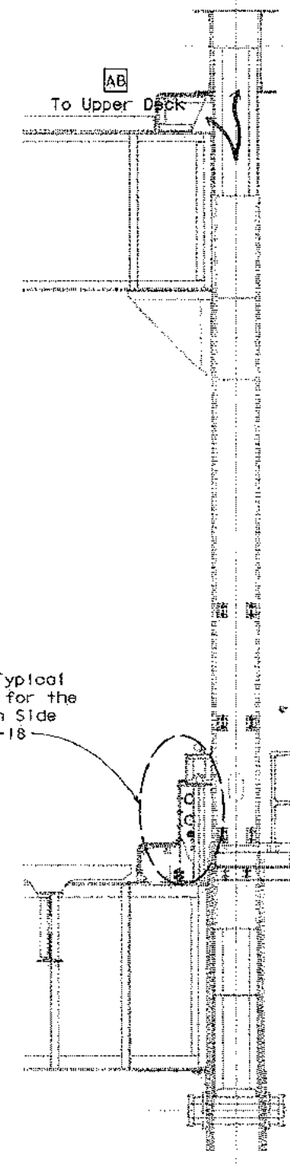
REGISTERED PROFESSIONAL ENGINEER — B. Golmohammadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA

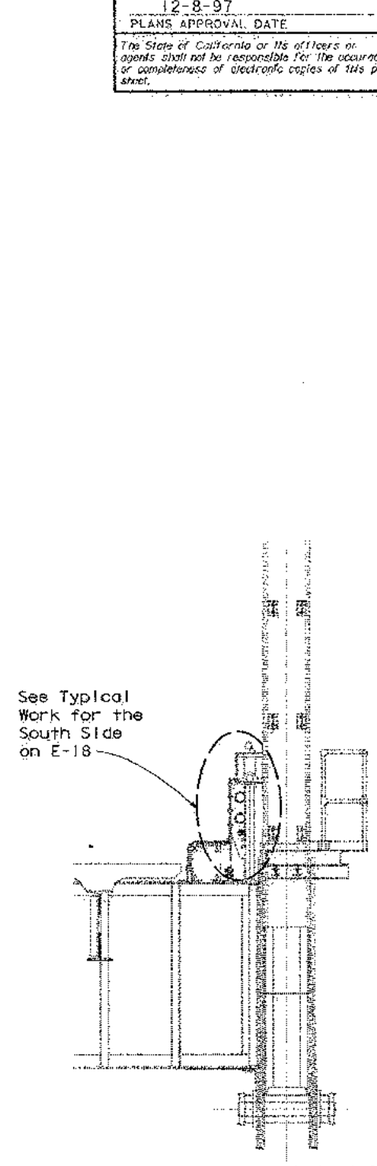


BEFORE STRUCTURAL RETROFIT
PIERS E13, E15 & E17

BEFORE STRUCTURAL RETROFIT
PIERS E13, E15 & E17



AFTER STRUCTURAL RETROFIT
SOUTH ELEVATION
PIERS E13, E15 & E17



AFTER STRUCTURAL RETROFIT
SOUTH ELEVATION
PIER E14

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

TYPICAL REMOVE ABANDON CONDUIT PIERS E13 TO E15 & E17

NO SCALE

E-22

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER
BEHZAD GOLMOHAMMADI

CALCULATED/DESIGNED BY
CHECKED BY
WK
BG

DATE	REVISED BY
	DATE REVISED

DATE PLOTTED => 08-DEC-1997
TIME PLOTTED => 15:36
10-31-97

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-OE]404300u22.psf

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	35	205

B. Golmohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golmohammadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA

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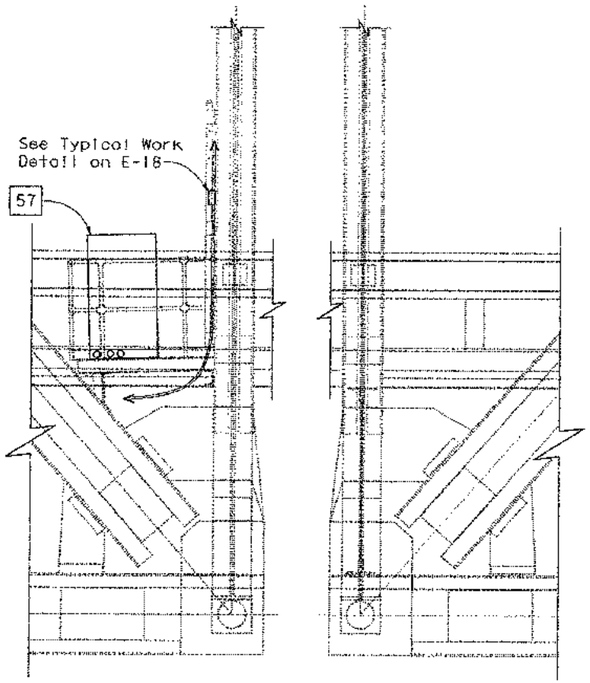
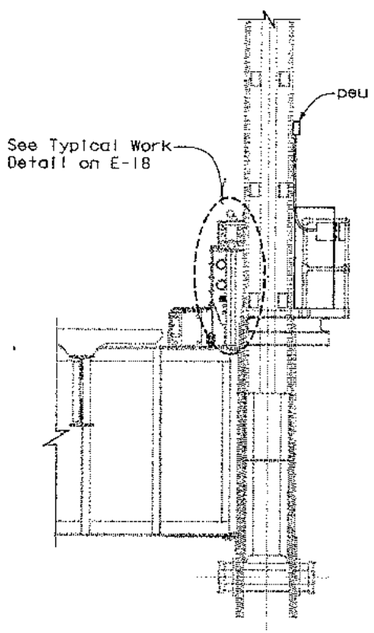
DATE	REVISED BY
	DATE REVISED
CALCULATED/ DESIGNED BY	WK
CHECKED BY	BG NC

PROJECT ENGINEER — BEHZAD GOLEMOHAMMADI

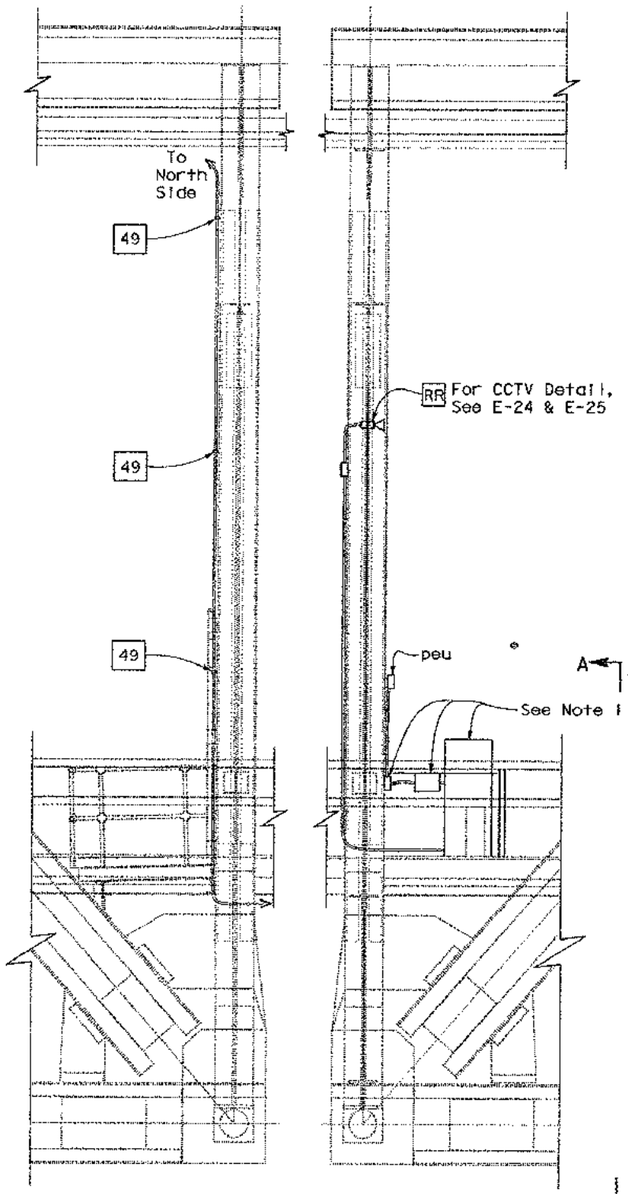
STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL



PIER E15



SECTION A-A

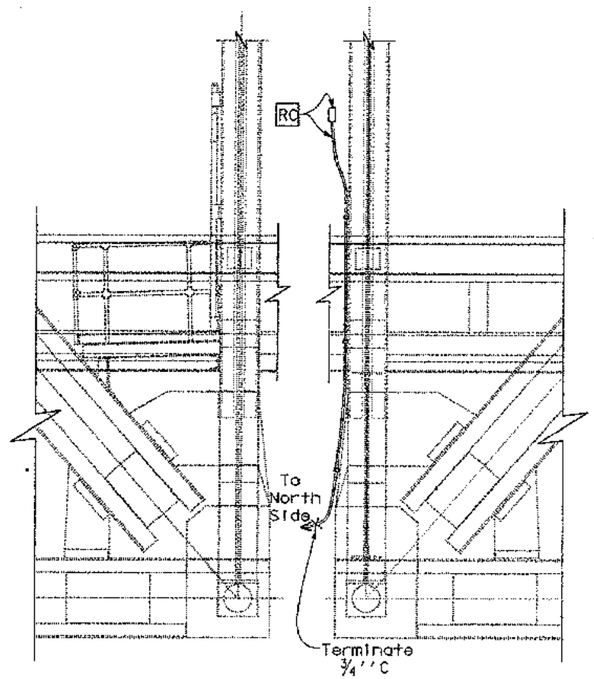


AFTER STRUCTURAL RETROFIT

PIER E16

NOTE

1. 47 , RS Jb's and peu. Reinstall the salvaged jb's and peu at temporary location as directed by the Engineer. Reinstall jb's and peu at the original location afterward.



AFTER STRUCTURAL RETROFIT

PIER E17

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

SOUTH PIERS E15 to E17

NO SCALE

E-23

This Plan Accurate for Electrical Work Only

LAST REVISION 10-31-97 | DATE PLOTTED => 08-Dec-1997 | TIME PLOTTED => 15:36

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => (ESC-OE1404300)23.dgn

CU 04259 | EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	36	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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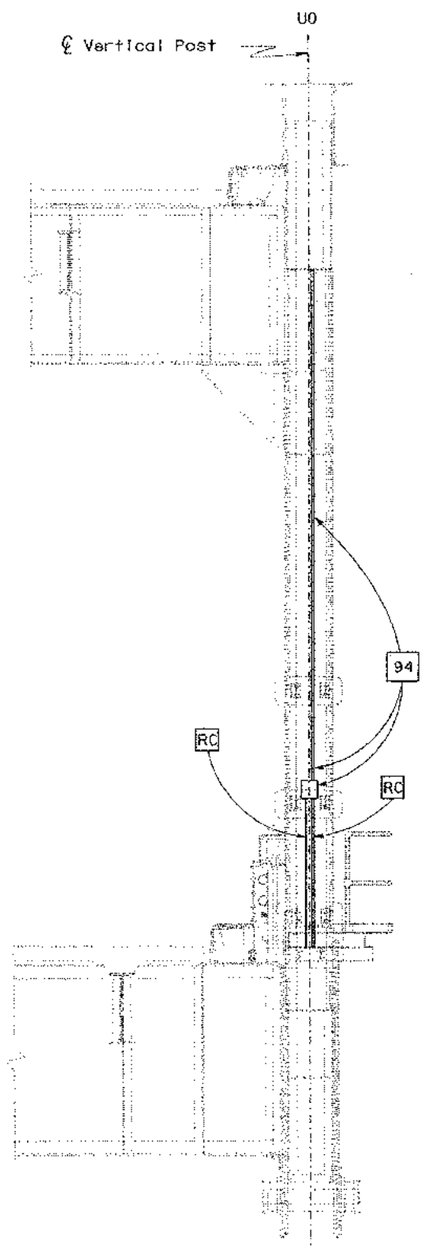
REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — Exp. 3-31-01 — ELECT. — STATE OF CALIFORNIA

DATE	REVISED BY	DATE REVISED

CALCULATED/DESIGNED BY: JKG
CHECKED BY: BG/NC

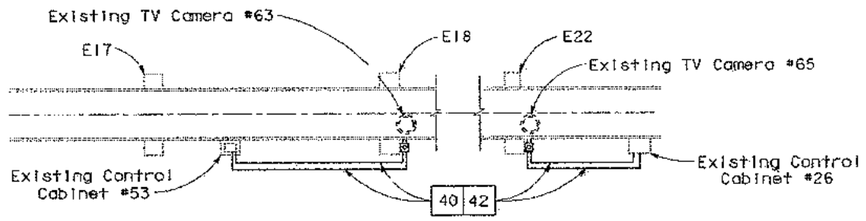
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL



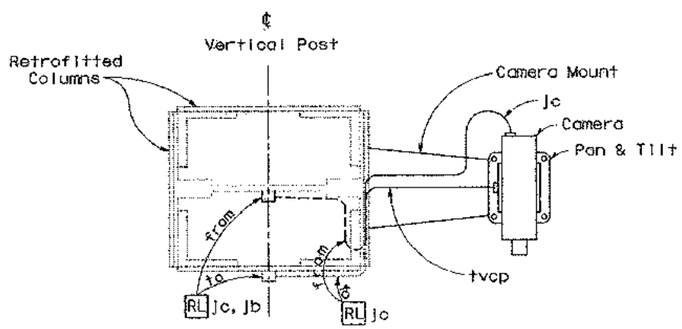
ELEVATION VIEW

PIER E17 LOWER DECK-SOUTH SIDE



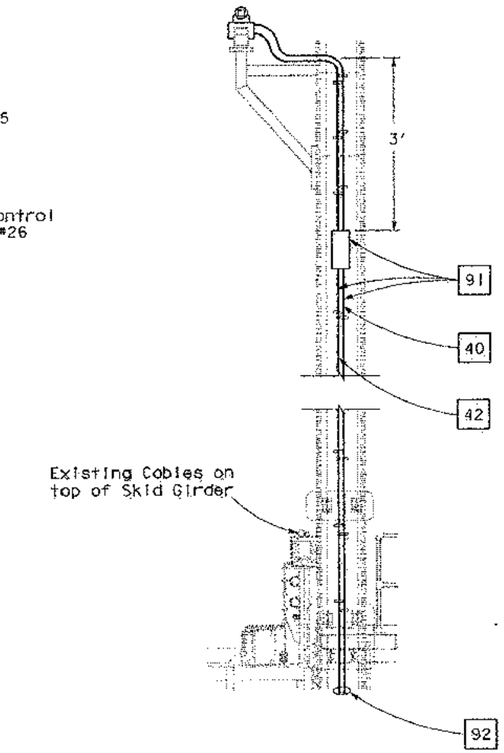
PLAN VIEW

PIER E17,E18 & E22
LOWER DECK-SOUTH SIDE



TOP VIEW

PIER E18 & PIER E22
LOWER DECK-SOUTH SIDE



SIDE VIEW
(Looking east for E18 camera #63)
(Looking west for E22 camera #65)

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

AT PIERS E12, E16, E17, E18 & E22 LOWER DECK SOUTH-SIDE

NO SCALE

E-24

This Plan Accurate for Electrical Work Only

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-05]404300u24.psf

CU 04259

EA 043001

LAST REVISION DATE PLOTTED => 08-Dec-1997
10-31-97 TIME PLOTTED => 15:36

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	37	205

B. Golesorkhi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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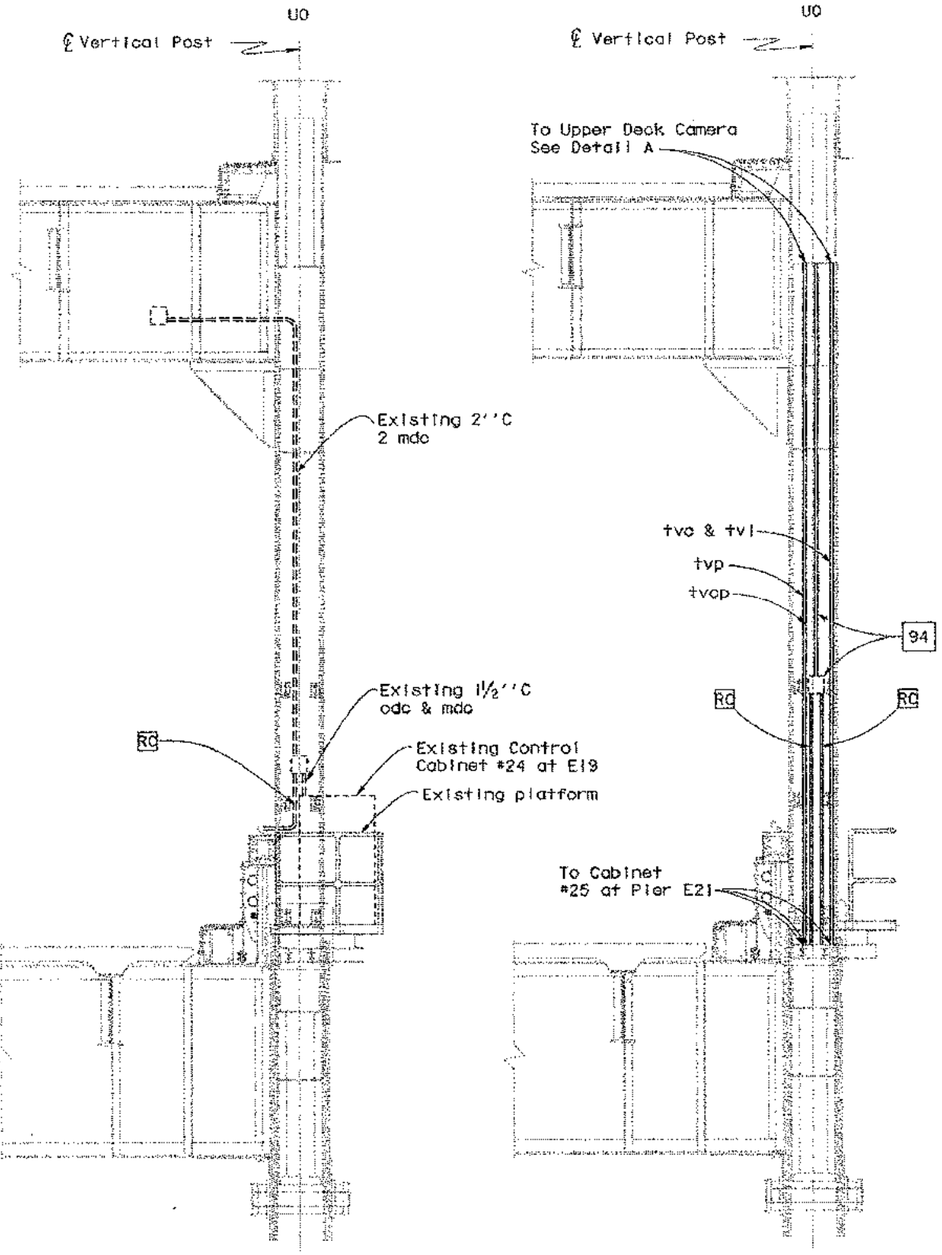
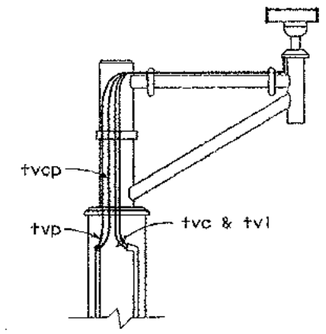
REGISTERED PROFESSIONAL ENGINEER — B. Golesorkhi — 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

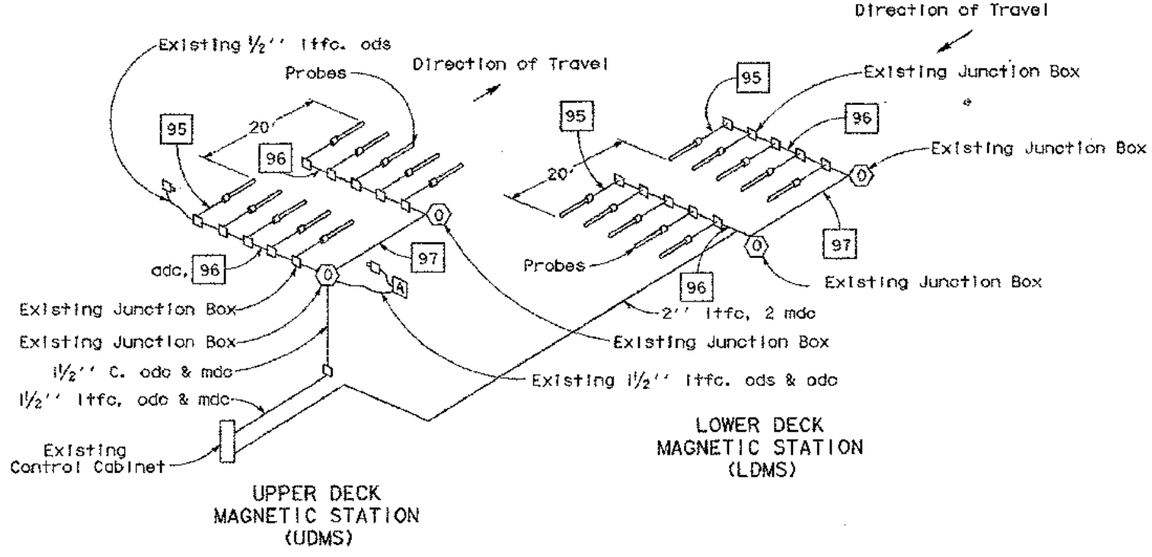


ELEVATION VIEW
E19 & E23 (LOWER DECK-SOUTH)

ELEVATION VIEW
E21 (LOWER DECK-SOUTH)



DETAIL A



TYPICAL MAGNETIC DETECTOR INSTALLATION

At Pier E19 & E23
There is no platform at E23

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
PIERS E19, E21 & E23 (LOWER DECK-SOUTH SIDE)

NO SCALE

E-25

This plan sheet is accurate for electrical only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY | CHECKED BY
DATE | REVISED BY | DATE REVISED
JKG | BG/NC

LAST REVISION 10-24-97 DATE PLOTTED => 08-Dec-1997 TIME PLOTTED => 15:36

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3
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DGN FILE => [ESC-OE]404300u25.psf
CU 04259
EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alg	80	7.8/8.9, 0.0/1.1	38	205

R. Gilchrist 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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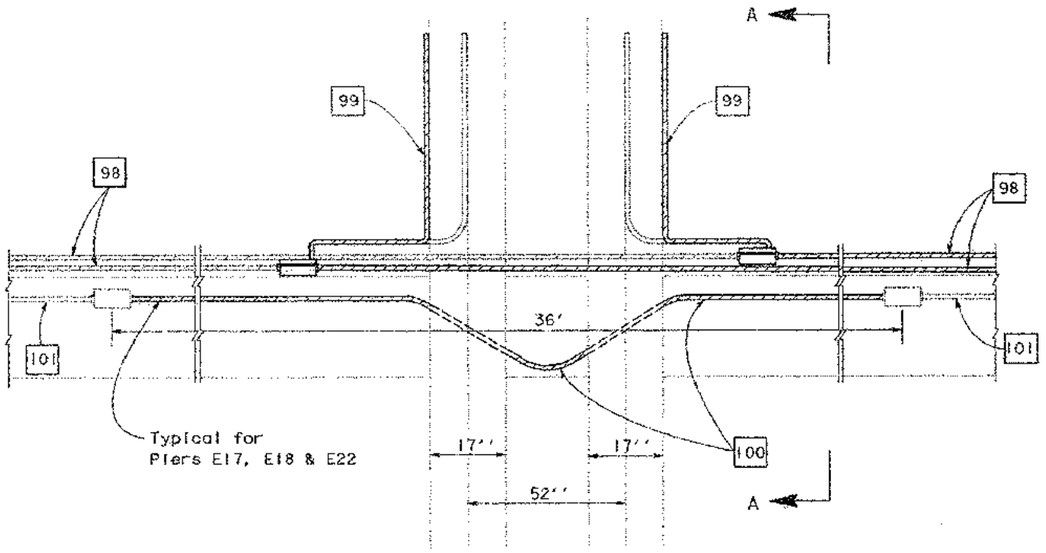
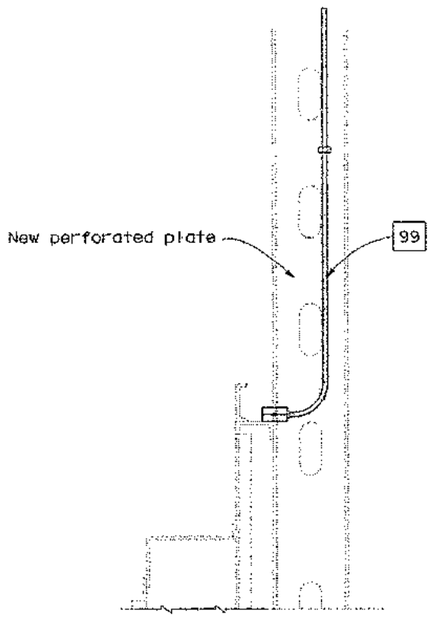
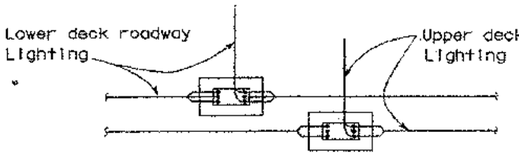
REGISTERED PROFESSIONAL ENGINEER
R. GILCHRIST
No. 15283
Exp. 3-31-01
ELECT
STATE OF CALIFORNIA



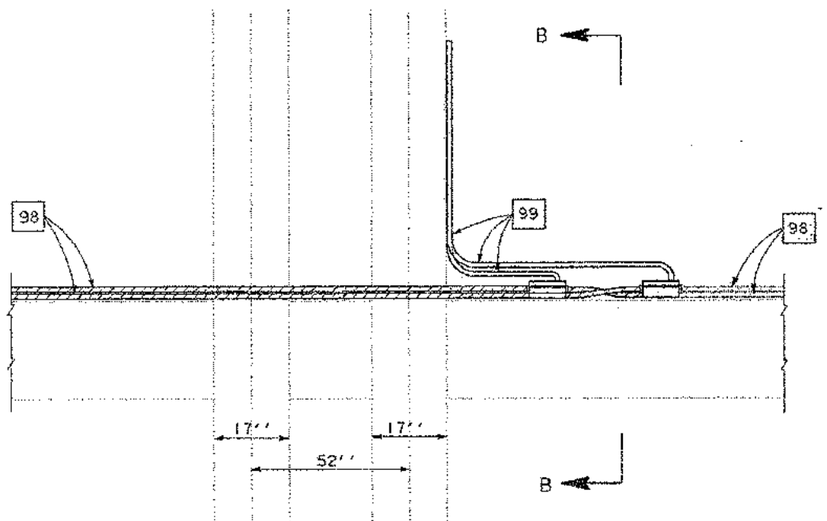
LOWER DECK NORTH SIDE ELEVATION
(TYPICAL FOR PIERS E17, E18 & E22)



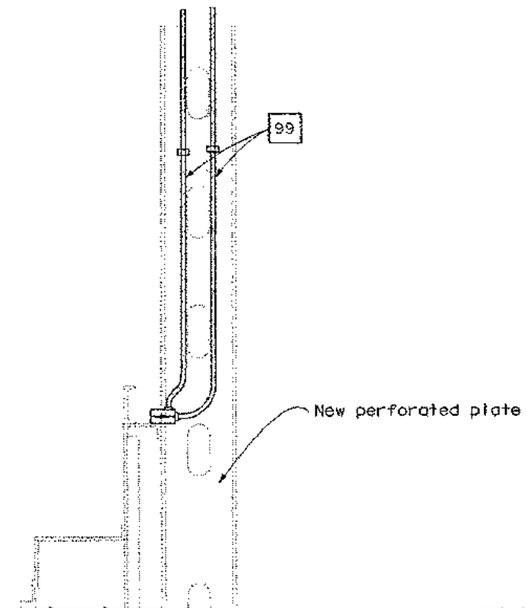
SECTION A-A



TYPICAL LIGHTING CIRCUIT



LOWER DECK NORTH SIDE ELEVATION
(TYPICAL FOR PIERS E19, E20, E21 & E22)



SECTION B-B

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

PIERS E17-E22 (LOWER DECK NORTH SIDE)

NO SCALE

E-26

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER
BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY
CHECKED BY
JKG BG NG
DATE REVISED BY
DATE REVISED

This Plan Accurate for Electrical Work Only

DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 15:37

FOR REDUCED PLANS ORIGINAL 0 1 2 3
USERNAME => tephills
CU 04259
EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	39	205

B. Golesharaadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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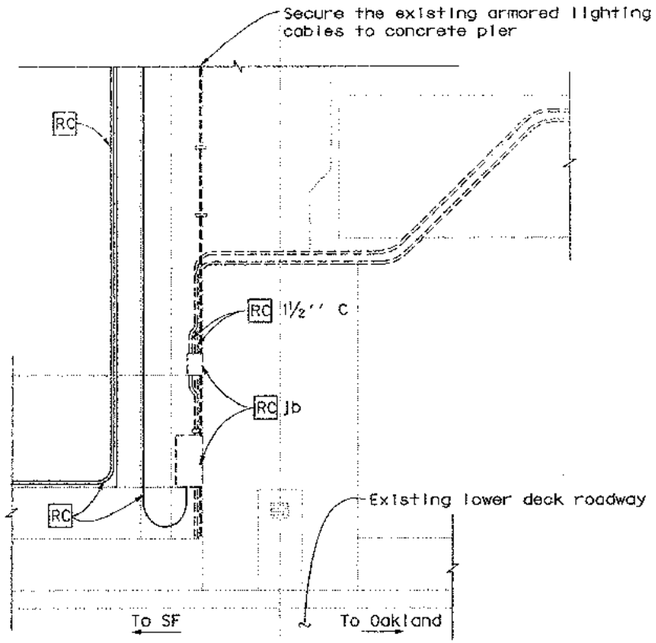
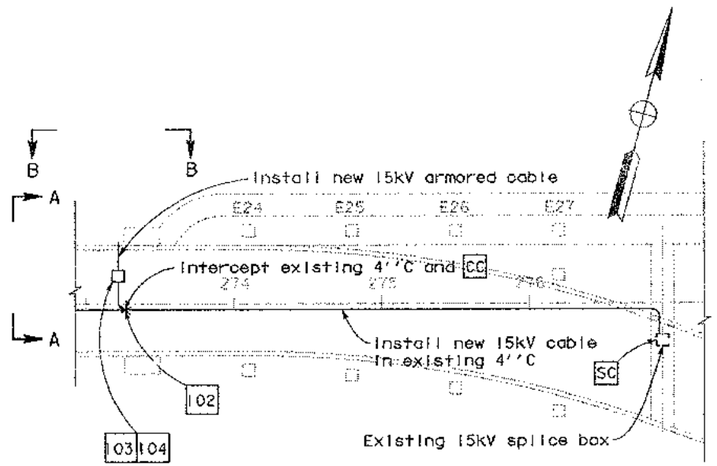
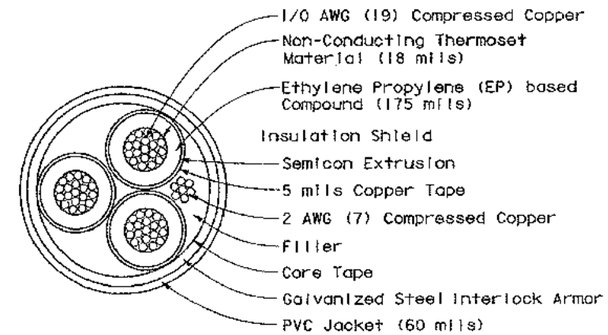
REGISTERED PROFESSIONAL ENGINEER — B. Golesharaadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA



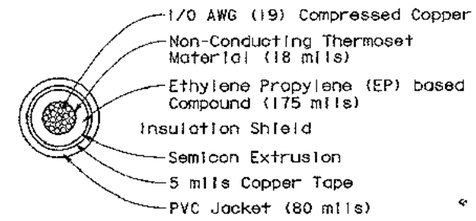
E-23 (LOWER DECK-NORTH SIDE)
ELEVATION
NO SCALE



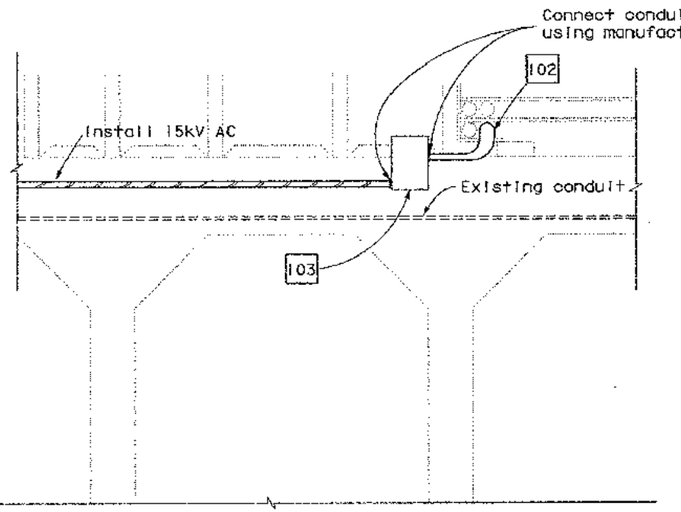
NEW 15kV CABLE PLAN VIEW
SCALE: 1''=50'



15kV ARMORED CABLE



15kV CABLE



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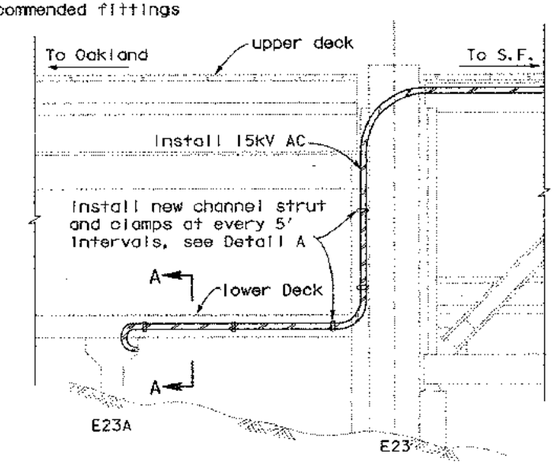

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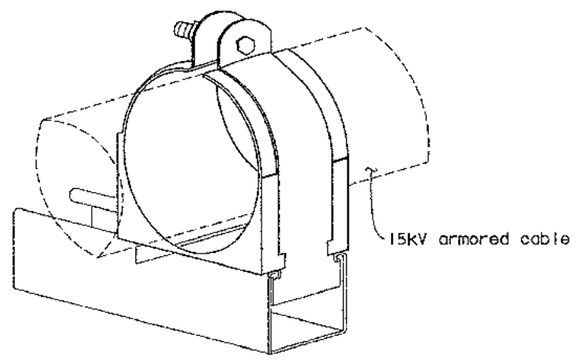

DETAIL A
NO SCALE

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

PIER E23 (LOWER DECK NORTH SIDE)

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL

PROJECT ENGINEER
BEHZAD GOLEMOHAMMADI

	CALCULATED/ DESIGNED BY	CHECKED BY	JKG	BG	DATE	REVISED BY	DATE REVISED
1							

This plan sheet is accurate for electrical only

SCALE AS SHOWN

E-27

LAST REVISION 11-01-97 DATE PLOTTED => 08-Dec-1997 TIME PLOTTED => 15:37

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC-0E]404300U27.dgn

CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	41	205

B. Golestanmohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golestanmohammadi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA

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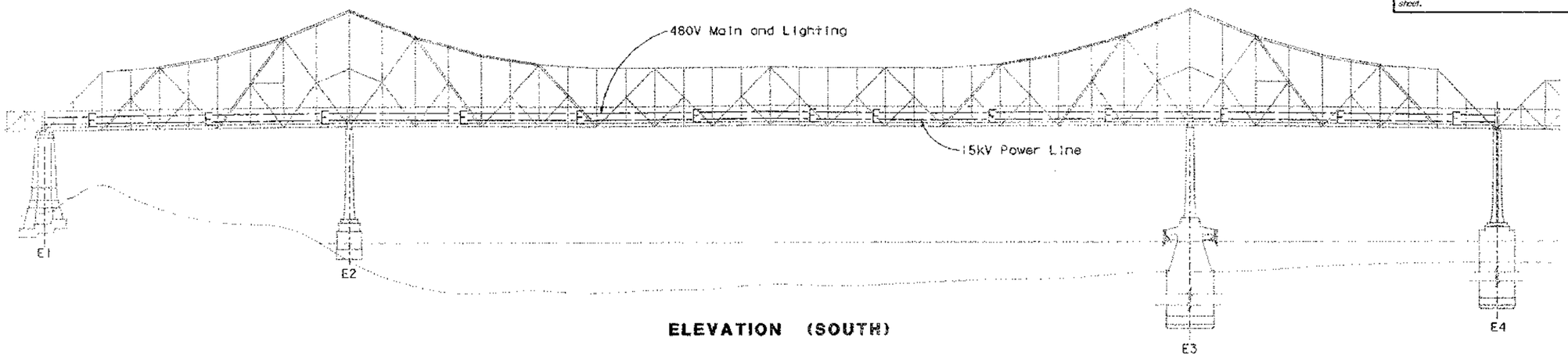
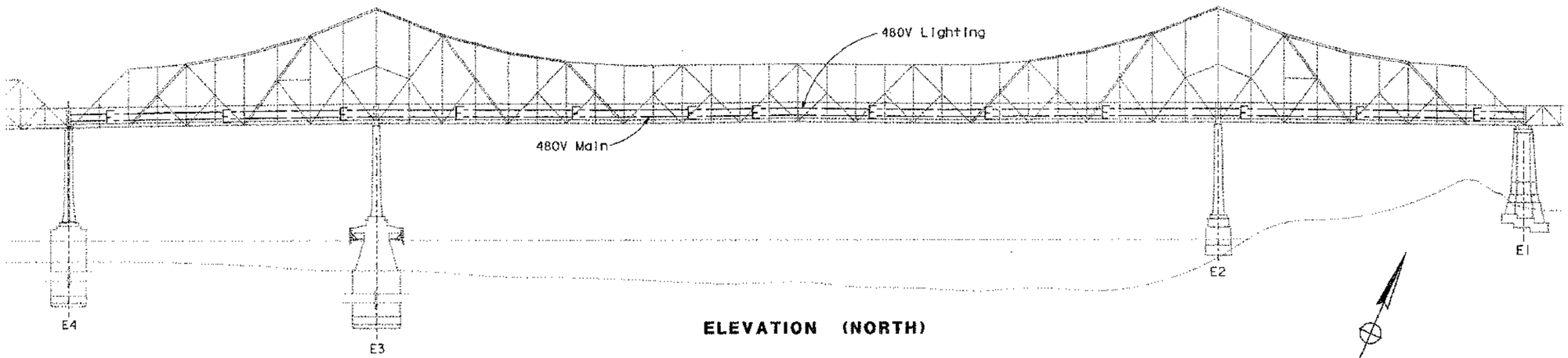


ELEVATION (SOUTH)



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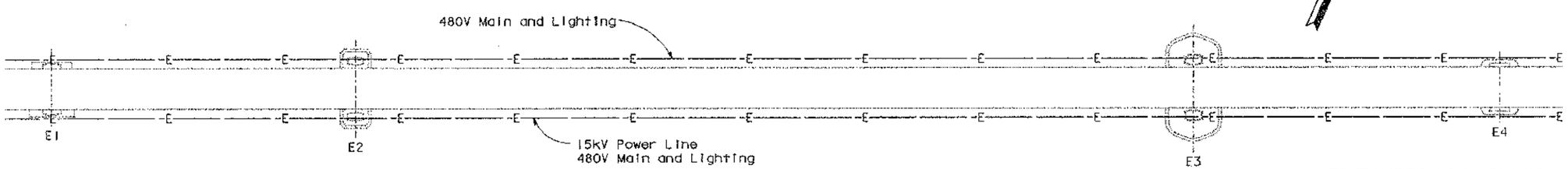


PLAN

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
HIGH RISK ELECTRICAL FACILITIES FROM PIER E1 to PIER E4

This plan sheet is accurate for electrical only

SCALE: 1'' = 100'

E-29

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLESTANMOHAMMADI

DATE	REVISED BY	DATE REVISED
WK	BG	

CALCULATED/DESIGNED BY
CHECKED BY

LAST REVISION 10-31-97 11:15:28 DATE PLOTTED => 08-Dec-1997

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME => tropists
DGN FILE => CESC-06\404300u29.psf

CU 04259

EA 04300:

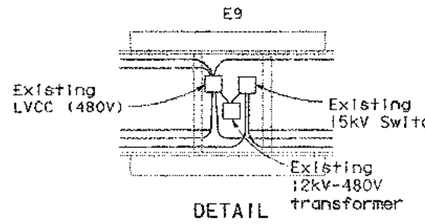
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	42	205

B. Galenkamp 10-9-97
REGISTERED ELECTRICAL ENGINEER

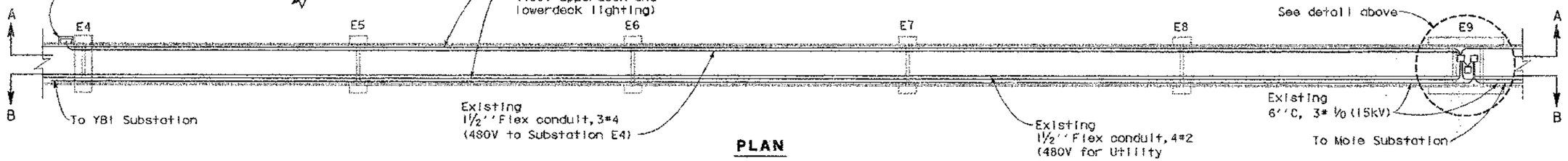
12-8-97
PLANS APPROVAL DATE

B. Galenkamp No. 15283 Exp. 3-31-01 ELECT
REGISTERED PROFESSIONAL ENGINEER
STATE OF CALIFORNIA

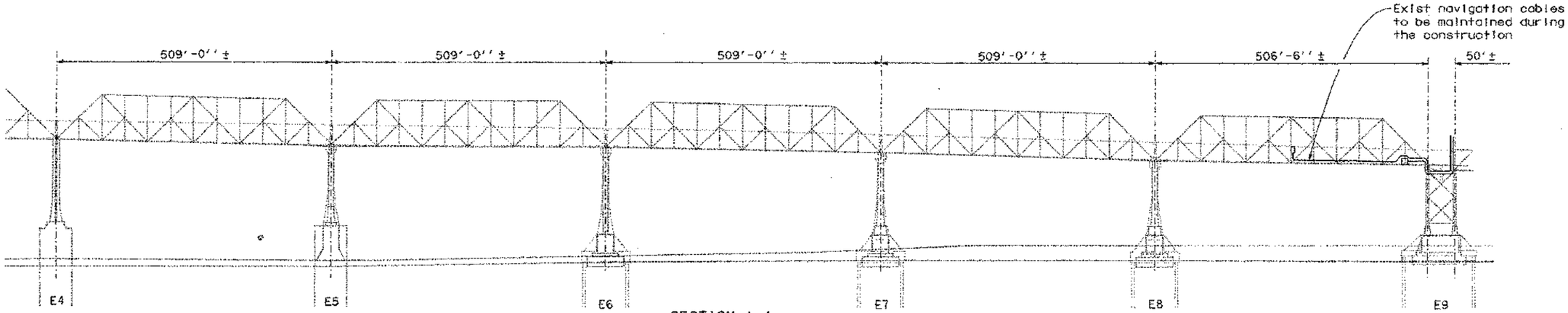
The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



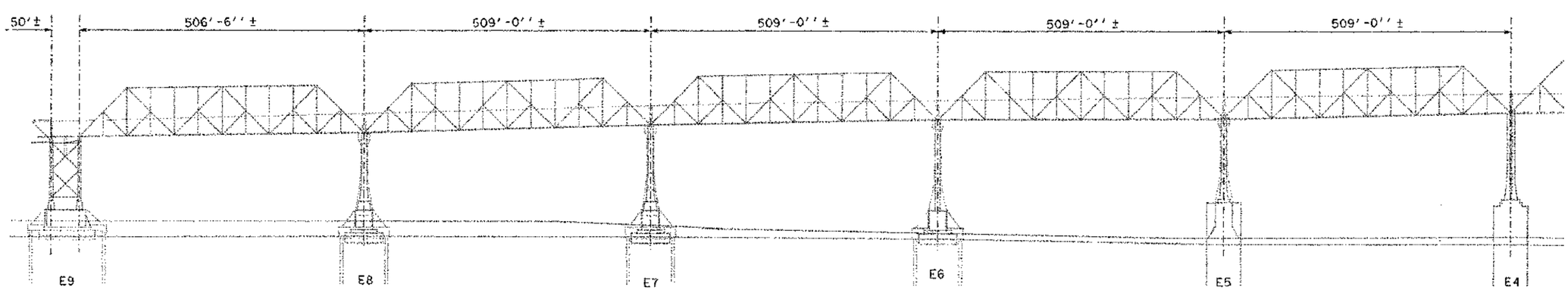
DETAIL



PLAN



SECTION A-A



SECTION B-B

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL

	DATE	REVISED BY	DATE REVISED
CALCULATED/ DESIGNED BY	BE		
CHECKED BY	BG		

PROJECT ENGINEER
BERC ELDEMIR

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
HIGH RISK ELECTRICAL FACILITIES FROM PIER E4 TO PIER E9

This Plan Accurate for Electrical Work Only
See E-1 and E-2 for Project and General Notes

NO SCALE

E-30

LAST REVISION 10-31-97
DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 15:38

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => (ESC-OE)404300u30.dgn

CU 04250

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8,8.9, 0.0/1.1	43	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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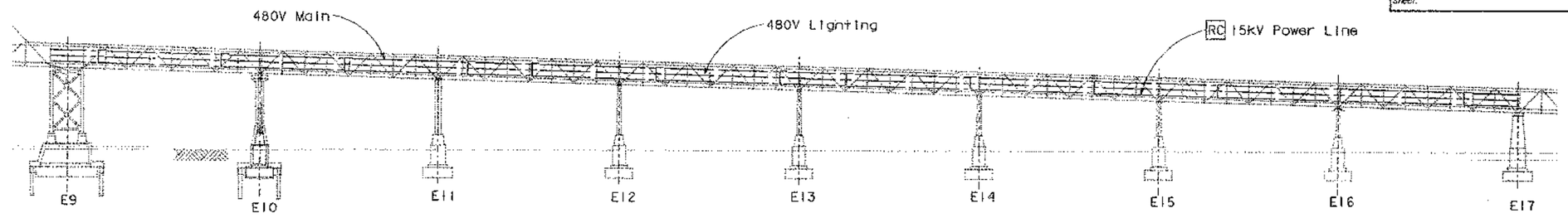
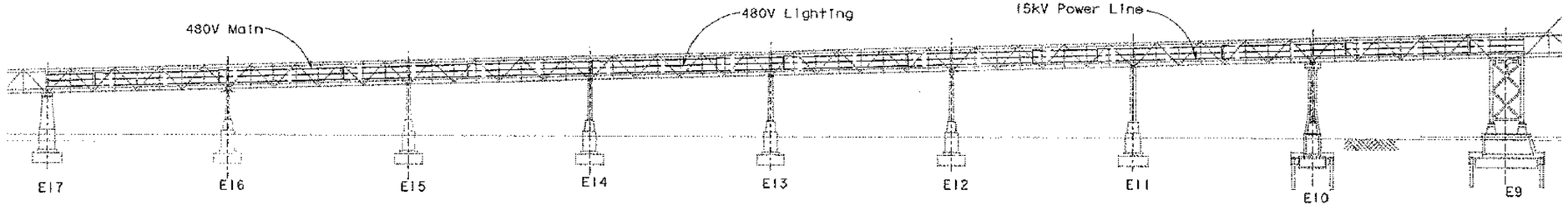
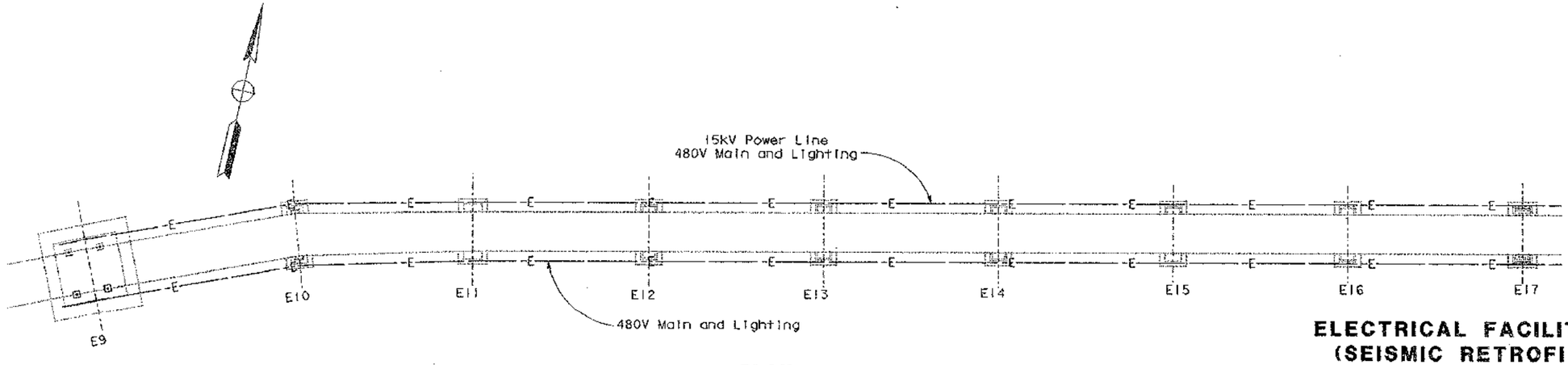


ELEVATION (SOUTH)



ELEVATION (NORTH)



PLAN

ELECTRICAL FACILITIES (SEISMIC RETROFIT)

HIGH RISK ELECTRICAL FACILITIES FROM PIER E9 TO PIER E17

SCALE: 1" = 100'

This plan sheet is accurate for electrical only

E31

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL

PROJECT ENGINEER
BEHZAD GOLEMOHAMMADI

CALCULATED/DESIGNED BY | WK | DATE | REVISED BY
CHECKED BY | BG | DATE REVISED

LAST REVISION 10-31-97
DATE PLOTTED => 09-Dec-1997
TIME PLOTTED => 06:27

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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CU 04259

EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8, 8.9, 0.0/1.1	44	205

B. Golecheranchi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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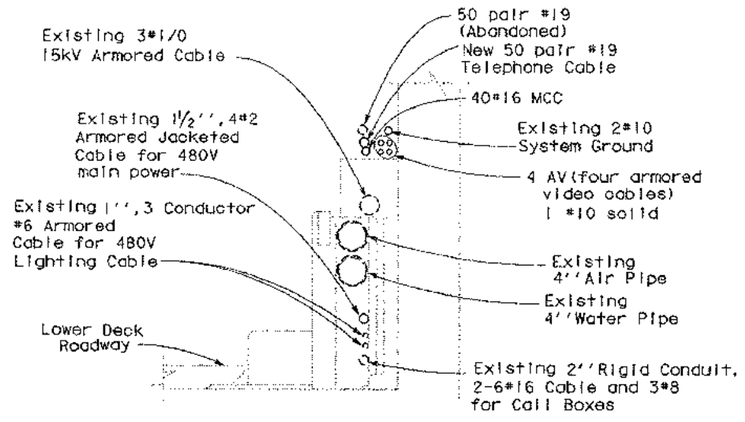
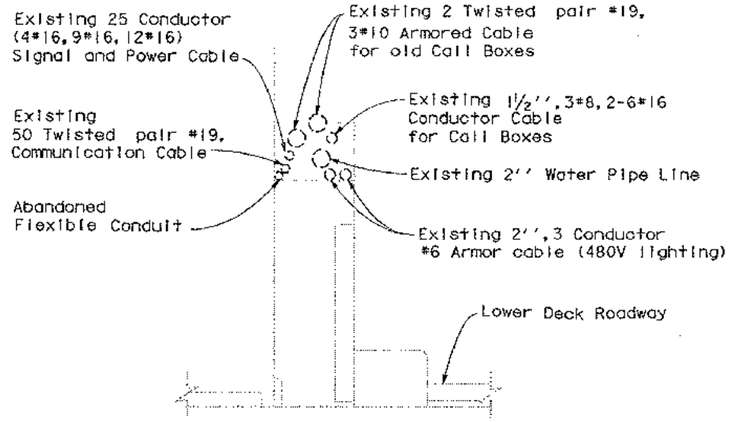
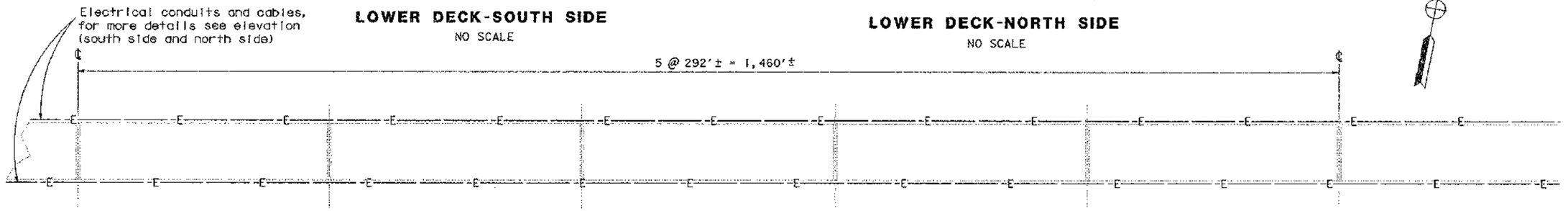
REGISTERED PROFESSIONAL ENGINEER — B. Golecheranchi — No. 15283 — EXP. 3-31-01 — ELECT — STATE OF CALIFORNIA



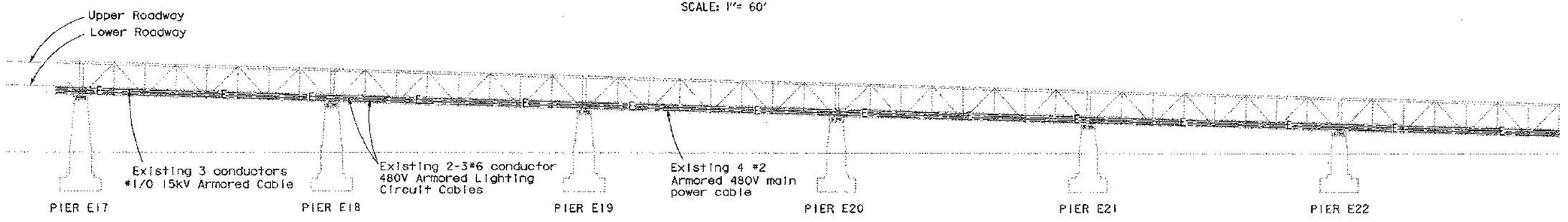
LOWER DECK-SOUTH SIDE
NO SCALE



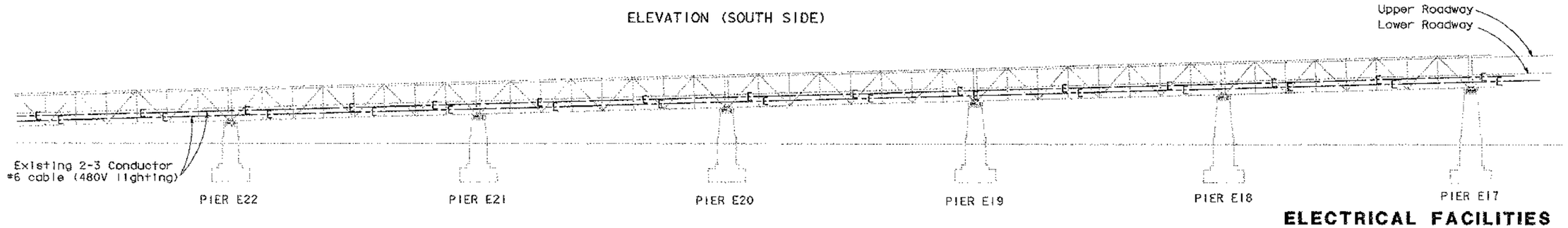
LOWER DECK-NORTH SIDE
NO SCALE



PLAN
SCALE: 1"= 60'



ELEVATION (SOUTH SIDE)



ELEVATION (NORTH SIDE)
NO SCALE

NOTE (Applicable to this Sheet only):

For Convenience cables and conduits are purposely not shown true to the real picture.

UTILITY PLAN SHOWING HIGH RISK ELECTRICAL FACILITIES BETWEEN PIERS E17 & E22 (LOWER DECK)

This plan sheet is accurate for electrical only

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
HIGH RISK ELECTRICAL FACILITIES FROM PIER E17 TO E22
SCALE AS SHOWN

E-32

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY: JKG
CHECKED BY: BG
DATE: REVISED BY / DATE REVISED

LAST REVISION 10-31-97 | DATE PLOTTED => 09-Dec-1997 | TIME PLOTTED => 06:28

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3
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CU 04259
EA 043001

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8, 9. 0.0/1.	45	205

B. Golenohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

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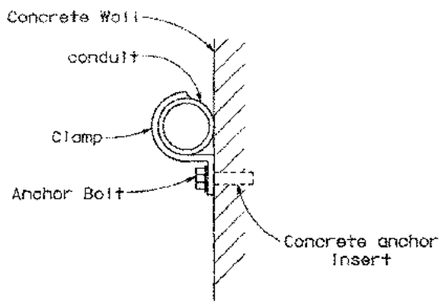
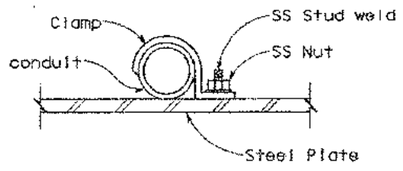
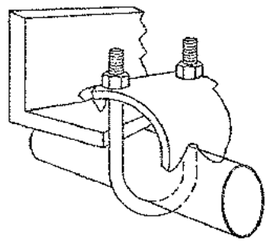
REGISTERED PROFESSIONAL ENGINEER
B. Golenohammadi
No. 15283
Exp. 3-31-01
ELECT
STATE OF CALIFORNIA

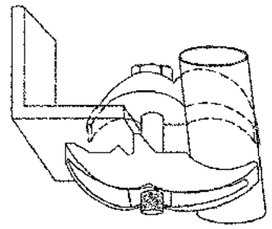




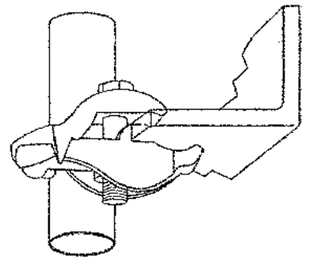
CONDUIT/CABLE MOUNTING DETAIL



Conduit at right angles to the beam

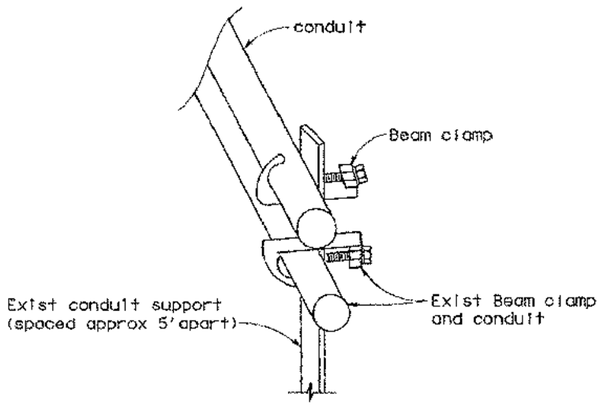


Conduit parallel to the beam

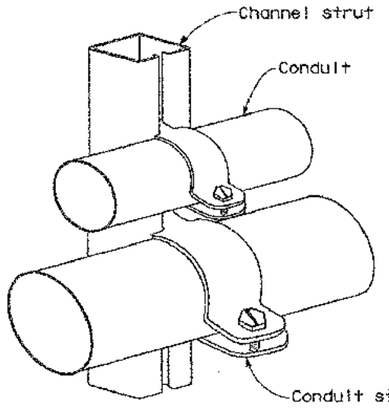


For mounting pipes or conduit vertically across beam edge

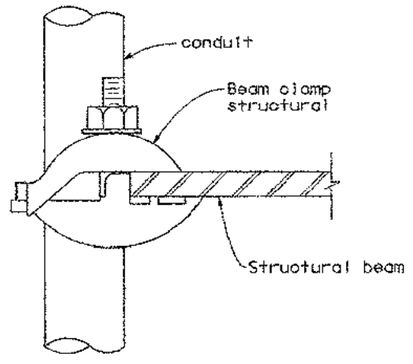
CONDUIT MOUNTING DETAILS



TYPICAL CONDUIT MOUNTING ON METAL STICK



TYPICAL CONDUIT MOUNTING ON STRUT



TYPICAL CONDUIT CLAMP MOUNTING

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
MISCELLANEOUS DETAILS

NO SCALE

E-33

This Plan Accurate for Electrical Work Only

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
ELECTRICAL
PROJECT ENGINEER
BEHZAD GOLENOHAMMADI
CALCULATED/DESIGNED BY
CHECKED BY
DATE
WK
BC
REVISED BY
DATE REVISED

CASE REVISION
DATE PLOTTED => 09-Dec-1997
10-23-97 TIME PLOTTED => 06:28

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

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DGN FILE => [ESC.0E1404300u33.dsf

CU 04259

EA 043001

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	46	205

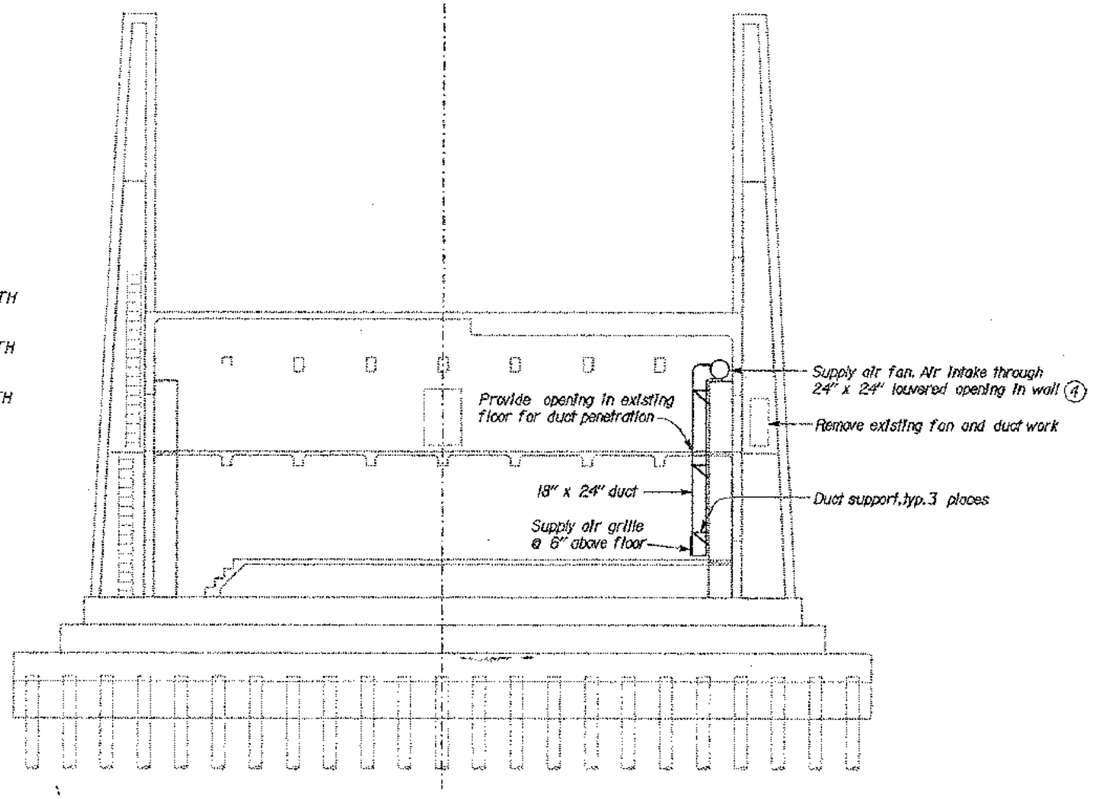
Jaswinder S Sandhu
REGISTERED ENGINEER-ELECTRICAL

REGISTERED PROFESSIONAL ENGINEER
J.S.SANDHU
No. 11803
Exp. 9-30-00
ELEC
STATE OF CALIFORNIA

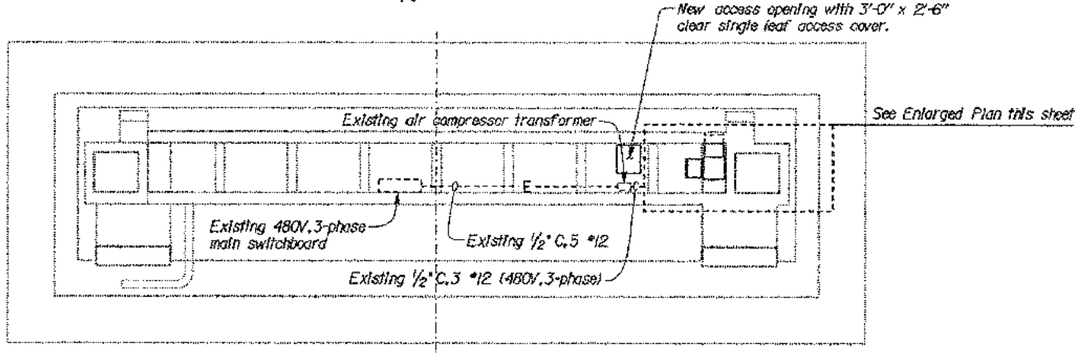
12-8-97
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

INDEX TO PLANS



ELEVATION
1/8" = 1'-0"

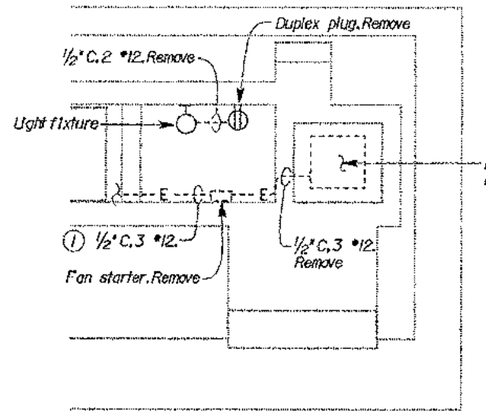


MECHANICAL WORK

QUANTITIES

MODIFY WATER AND AIR LINES (BRIDGE) LUMP SUM

PLAN
1/8"=1'-0"



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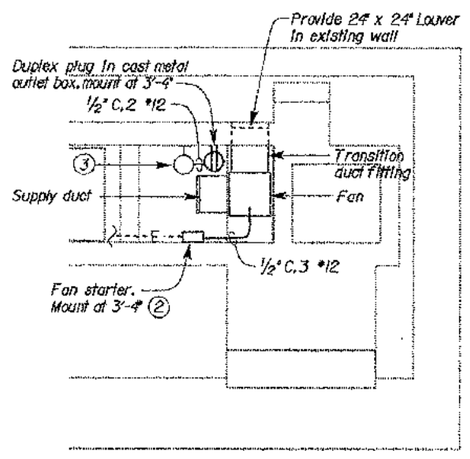

MODIFIED

ENLARGED PLAN
1/4" = 1'-0"

Notes:

(1) Shorten conduit as required and terminate in the new fan starter.

(2) Fan starter shall be a combination 3-pole, 480-volt, NEMA size 0. NEMA rated starter and motor circuit protector in a NEMA type 12 enclosure. Starter shall have 480-volt coil, double-break silver contacts, start/stop push buttons and three manual reset, non-adjustable thermal overloads. Reset button shall be externally operable.

(3) Splice existing to new conductors in existing fixture outlet box.

(4) Supply air fan Operational/Electrical characteristics: 3200 CFM @ 1/4" static pressure- 1 horsepower @ 480V three phase.

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES SPAN E17 TO SPAN E22

DESIGN SUPERVISOR / DESIGN ENGINEER	DESIGN	BY Callaway/Abdelsayed	CHECKED J.S.Sandhu	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN	BRIDGE NO. 33-0025
	DETAILS	BY Ed D.Tapalla 6/97	CHECKED Callaway/Abdelsayed			POST MILE 1.5
	QUANTITIES	BY Callaway/Abdelsayed	CHECKED J.S.Sandhu		CU 04 EA 043001	SAN FRANCISCO-OAKLAND BAY BRIDGE / PIER E23 RETROFIT ELECTRICAL/MECHANICAL PLAN

SHEET ME-1

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

DISREGARD PRINTS BEARING EARLIER REVISION DATES → REVISION DATES (PRELIMINARY STAGE ONLY) 8/4/98 6/4/98 SHEET OF

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:15

USERNAME => tlenard

ME-1

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	47	205

REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER — J. WHEELER — No. 21648 — Exp. 6/30/00 — MECH — STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

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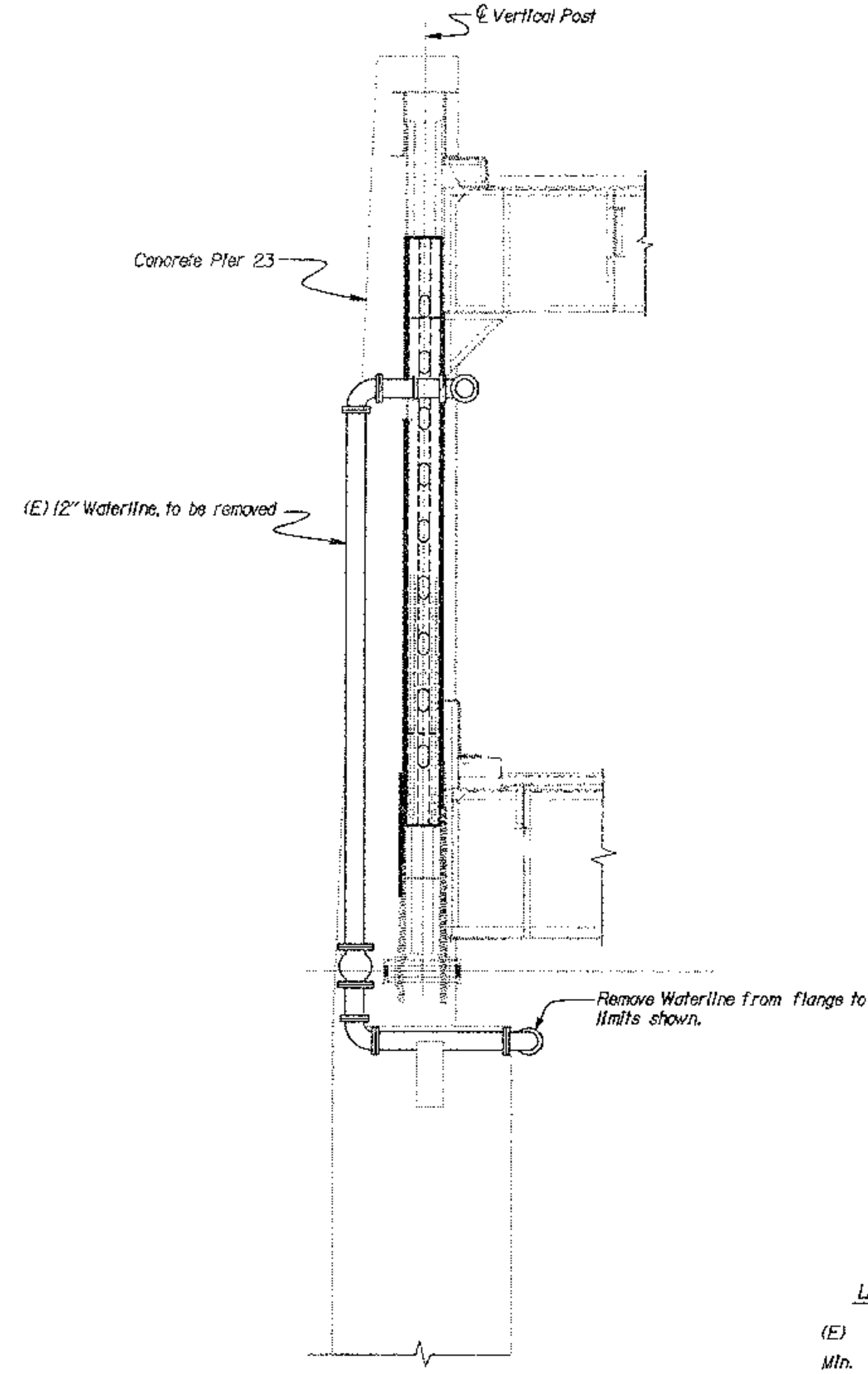
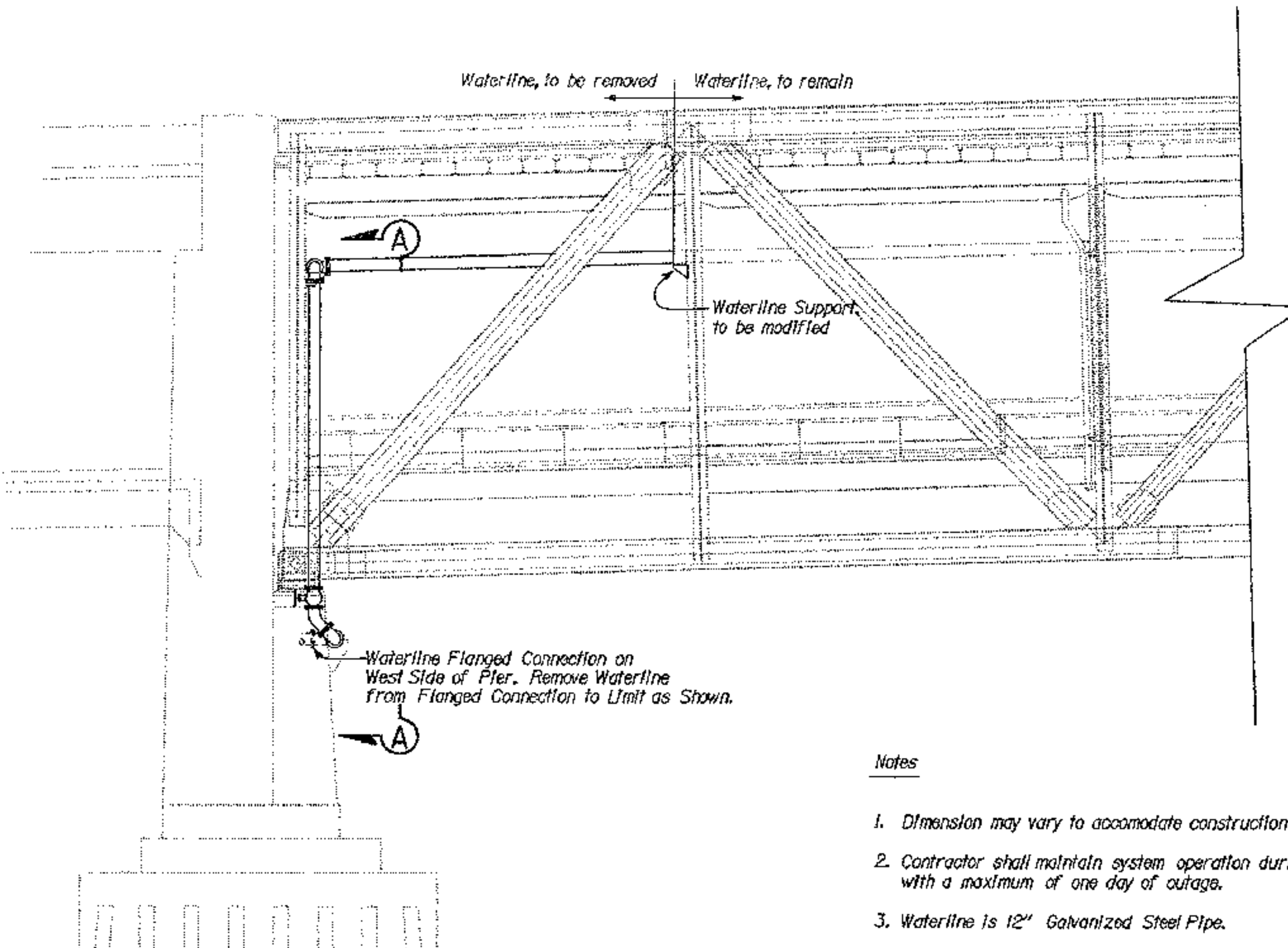


SECTION A-A
1/4" = 1'-0"



Abutment 23

PART ELEVATION (LOOKING SOUTH)
1/8" = 1'-0"

Notes

1. *Dimension may vary to accomodate construction requirements.*
2. *Contractor shall maintain system operation during construction with a maximum of one day of outage.*
3. *Waterline is 12" Galvanized Steel Pipe.*
4. *Remove (E) supports and anchor in area were water line is removed.*

LEGEND

(E)	Existing
Min.	Minimum
psi	Pounds per square inch
Typ	Typical

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES SPAN E17 TO SPAN E22

	BY	CHECKED
DESIGN	JACK WHEELER	DAVID WRIGHT
DETAILS	DAVID COLLIER	DAVID WRIGHT
QUANTITIES	JACK WHEELER	DAVID WRIGHT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.5

SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER E23 RETROFIT
EXISTING 12" DIAMETER PIPE REMOVAL

SHEET M-1

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 8-4-97 9-5-97

REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:16

USERNAME => friendrd
dsnsomechl_09062902

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	48	205

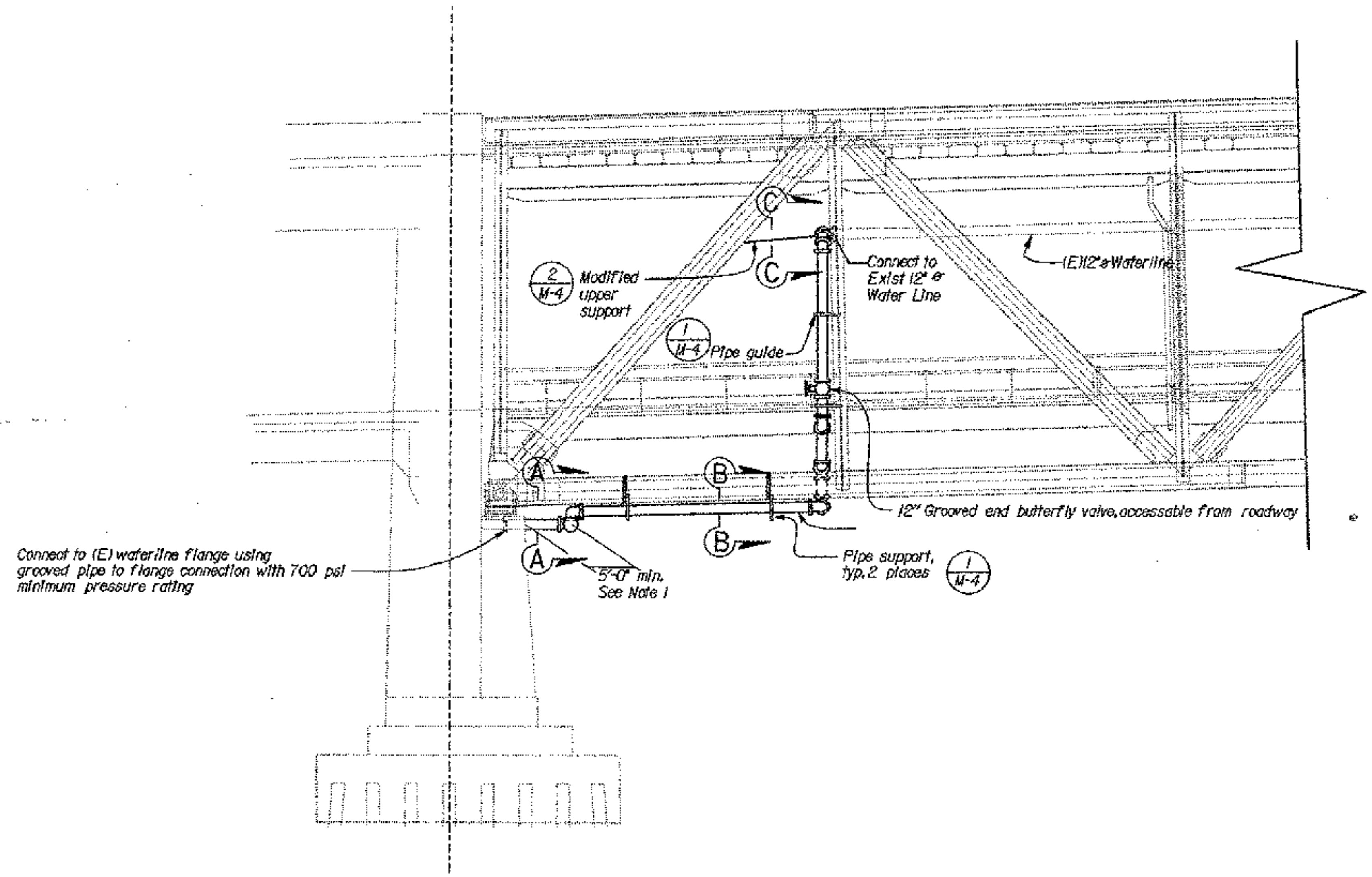
REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER J. WHEELER No. 21648 Exp. 6/30/00 MECH STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

Notes

1. *Dimension may vary to accomodate construction requirements.*
2. *The Waterline shall be supported at all times. Contractor shall install temporary pipe supports, if required, before removing (E) supports for construction.*
3. *Waterline shall be cut and grooved so that the (E) support is used. At the Contractor's option, the waterline may be replaced from the last flanged connection. If the Contractor removes any section of waterline as part of his grooving operation, that section of waterline shall be replaced.*
4. *All fittings shall be 90 or 45 degree, malleable iron, grooved end elbows. Two Rigid Mechanical Couplings shall be installed at all elbows.*
5. *Waterline shall be 12", rolled groove, standard weight, galvanized Steel Pipe. Waterline couplings shall be Mechanical Couplings.*
6. *Mechanical couplings shall be rated for working pressure of 800 psi minimum.*
7. *At least 2 flexible type mechanical couplings shall be installed in each straight section of pipe.*



PART ELEVATION (LOOKING SOUTH)

1/8" = 1'-0"

NOTE:
THE CONTRACTOR SHALL VERIFY ALL CONTROLLING FIELD DIMENSIONS BEFORE ORDERING OR FABRICATING ANY MATERIAL.

DESIGN	BY JACK WHEELER	CHECKED DAVID WRIGHT	
DETAILS	BY DAVID COLLIER	CHECKED JACK WHEELER	
QUANTITIES	BY JACK WHEELER	CHECKED DAVID WRIGHT	

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES SPAN E17 TO SPAN E22
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER E23 RETROFIT
12" DIAMETER PIPE

SHEET M-2

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES → 6-26-97 9-5-97

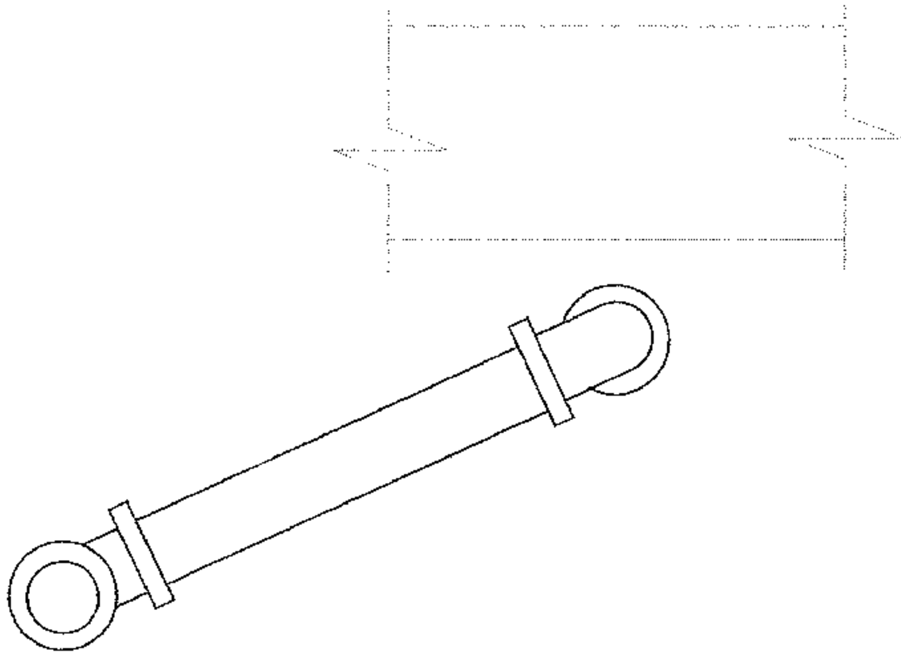
REVISION DATES (PRELIMINARY STAGE ONLY) | SHEET | OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	49	205

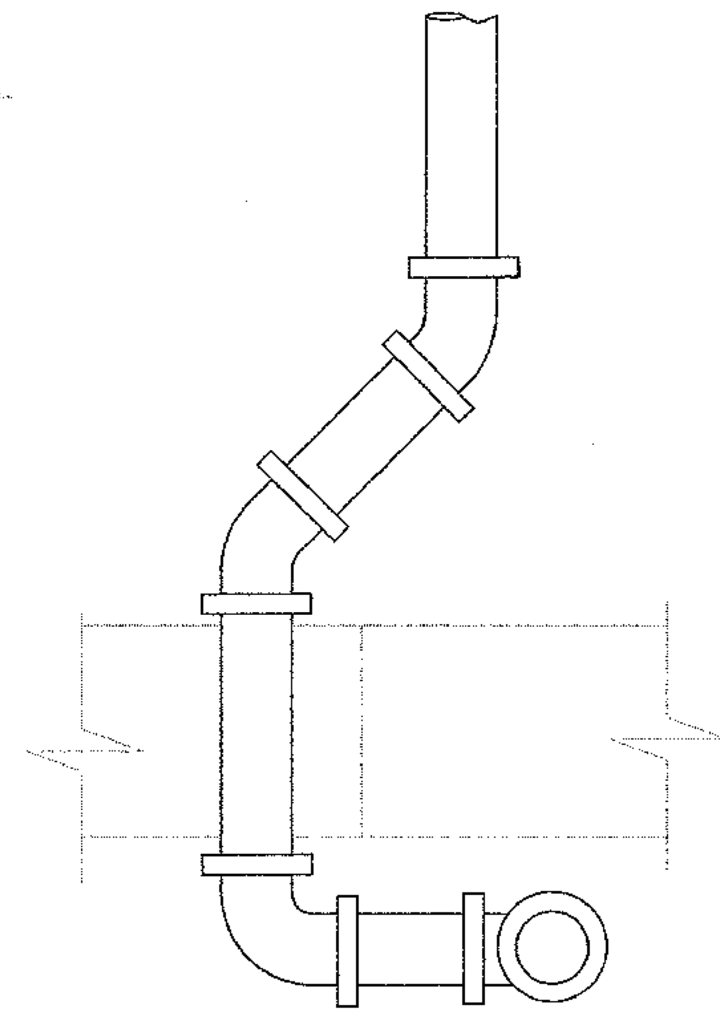
REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER
J. WHEELER
No. 21648
Exp. 6/30/00
MECH
STATE OF CALIFORNIA

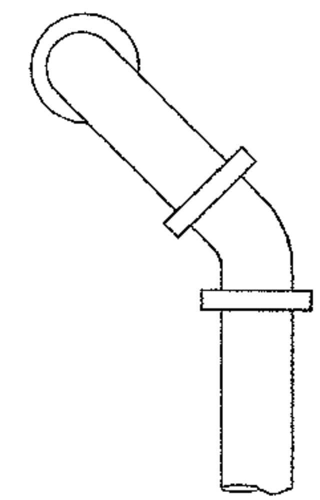
12-8-97
PLANS APPROVAL DATE



SECTION A-A
3/4" = 1'-0"



SECTION B-B
3/4" = 1'-0"



SECTION C-C
3/4" = 1'-0"

	BY	CHECKED
DESIGN	JACK WHEELER	DAVID WRIGHT
DETAILS	DAVID COLLIER	JACK WHEELER
QUANTITIES	JACK WHEELER	DAVID WRIGHT

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.5

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 288 TRUSSES SPAN E17 TO SPAN E22
SAN FRANCISCO-OAKLAND BAY BRIDGE
PIER E23 RETROFIT
12'' DIAMETER PIPE SECTIONS

SHEET M-3

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →
REVISION DATES (PRELIMINARY STAGE ONLY): 6-26-97, 7-17-97, 9-15-97
SHEET OF

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:17

USERNAME => frienord
dwmsemech3_09062914

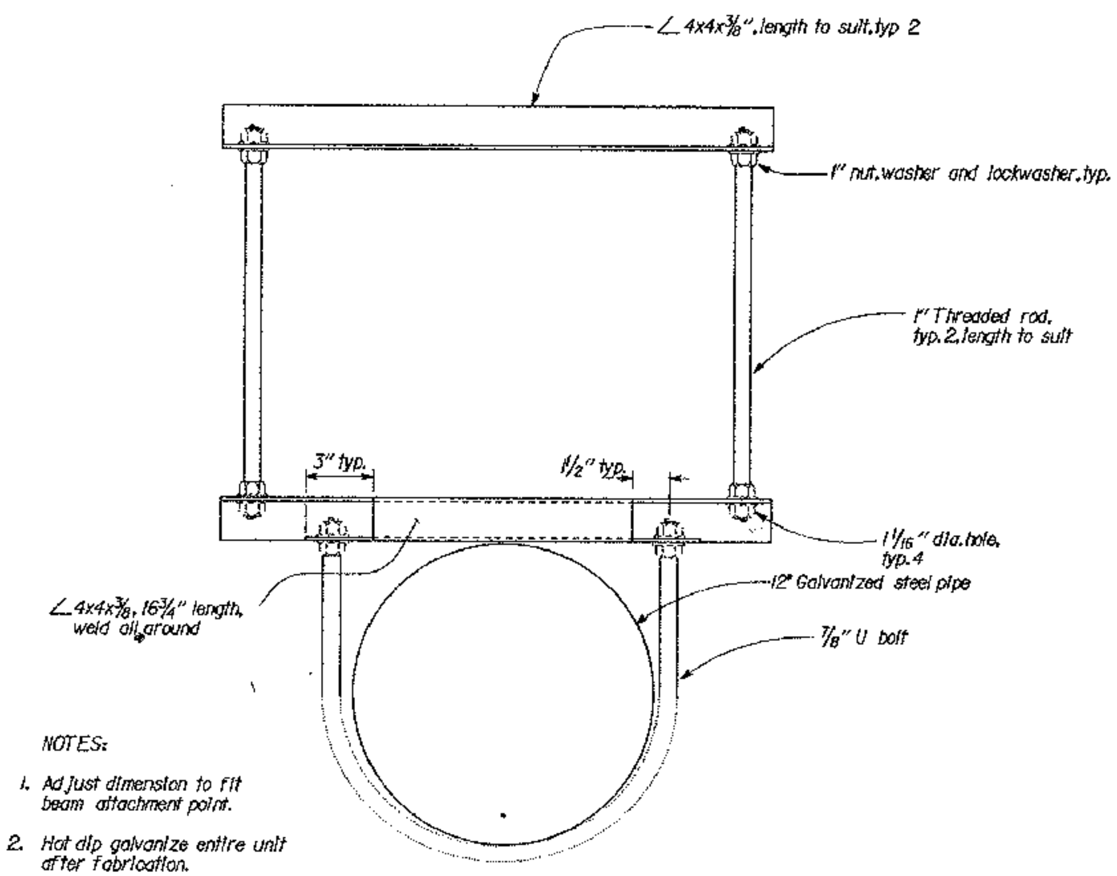
VI-I

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	50	205

REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER J. WHEELER No. 21646 Exp. 6/30/00 MECH STATE OF CALIFORNIA

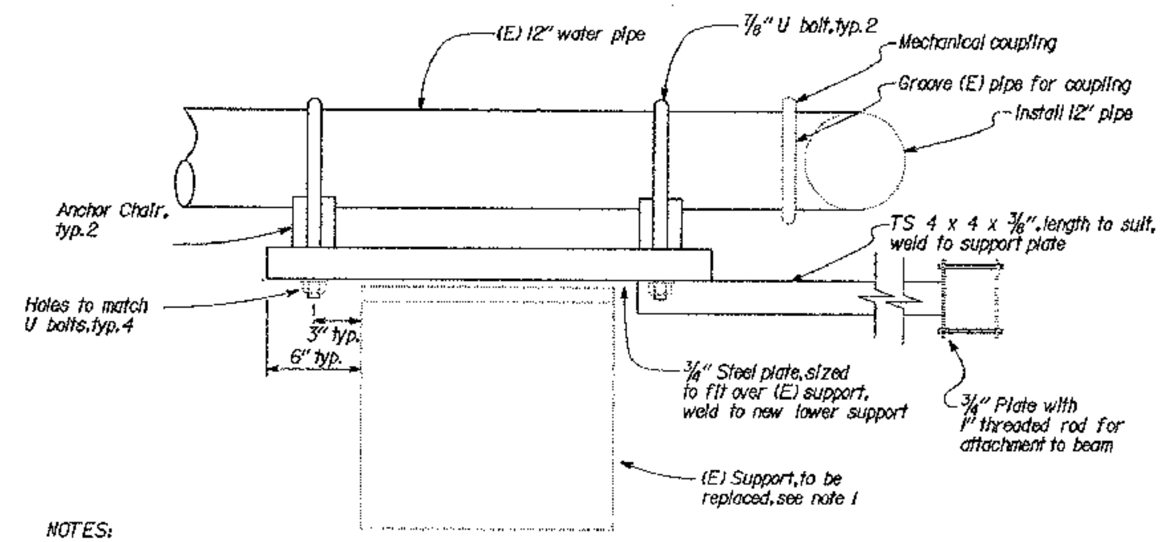
12-8-97
PLANS APPROVAL DATE



NOTES:

1. Adjust dimension to fit beam attachment point.
2. Hot dip galvanize entire unit after fabrication.

① **PIPE SUPPORT/GUIDE**
NO SCALE



NOTES:

1. Replace (E) Support with a new support fabricated to match the (E) support and the modified top portion as shown.

② **MODIFIED UPPER SUPPORT**
NO SCALE

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES SPAN E17 TO SPAN E22

DESIGN	BY JACK WHEELER	CHECKED DAVID WRIGHT		
DETAILS	BY DAVE COLLIER	CHECKED JACK WHEELER		
QUANTITIES	BY JACK WHEELER	CHECKED DAVID WRIGHT		

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.5

SAN FRANCISCO-OAKLAND BAY BRIDGE

PIER E23 RETROFIT
12'' DIAMETER PIPE SUPPORTS

SHEET M-4

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY) 6-26-97 8-8-97 9-5-97

SHEET OF

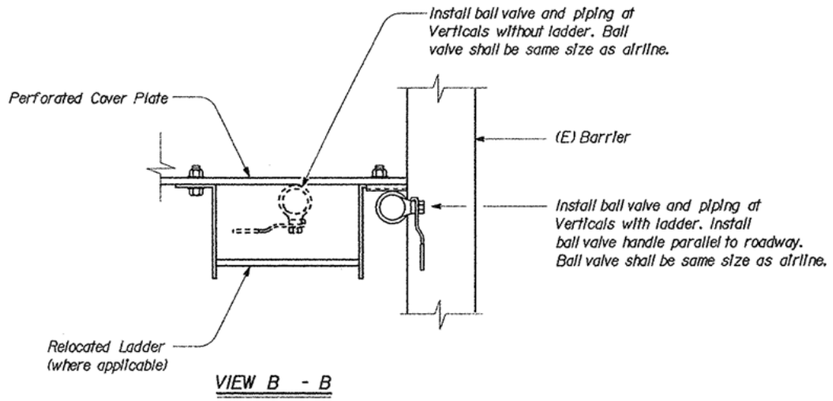
DS OSD 2139A (4/89)
FILE NO.:

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	51	205

REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER
J. WHEELER
No. M21648
Exp. 6-30-00
MECH
STATE OF CALIFORNIA

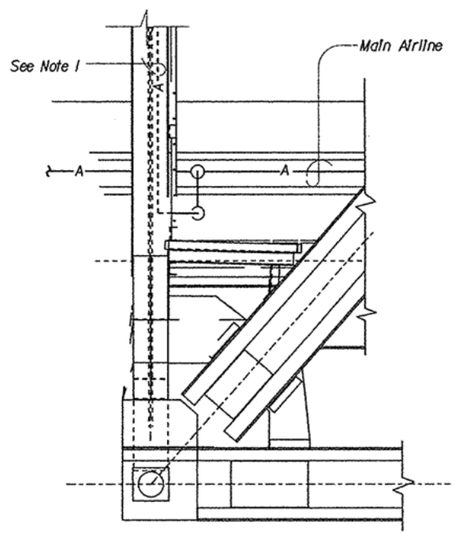
12-8-97
PLANS APPROVAL DATE



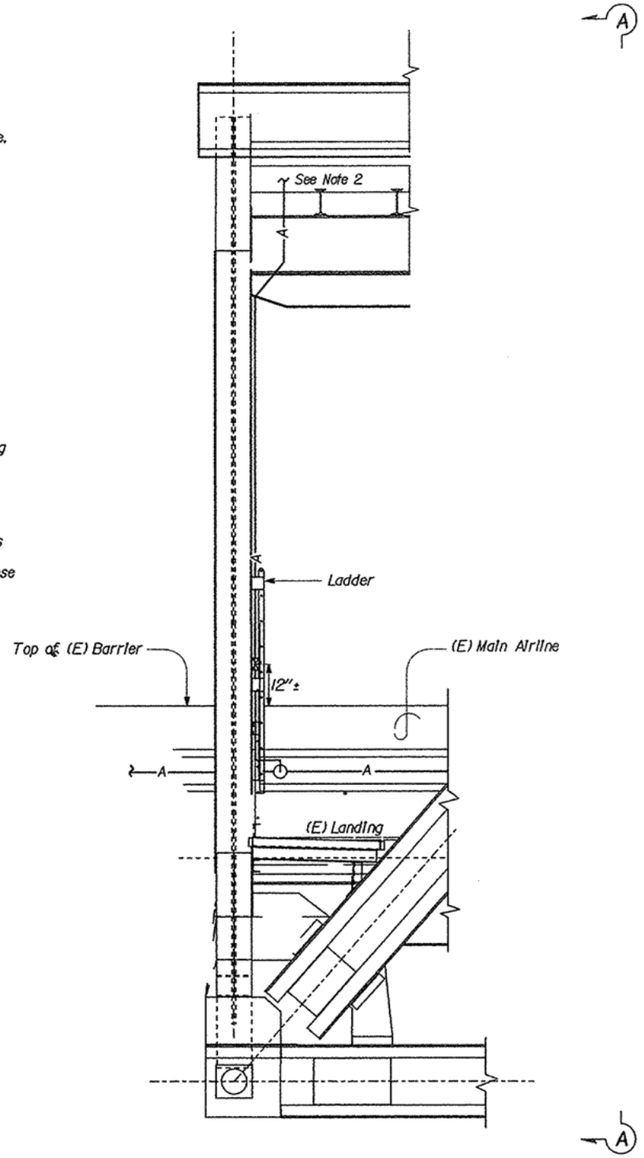
VIEW B - B

NOTES:

1. Remove piping and valve from main airline to upper deck. Install temporary cap at main airline until structural modifications to vertical is complete.
2. Install 1½" sch. 40 GSP and fittings from main airline to upper deck fitting. No piping shall be installed in vertical area above landing in order to keep landing clear.
3. Drill and tap perforated cover plate for two ⅜"x16, UNC bolts for each pipe support.
4. Main lines may be detached from (E) supports to facilitate barrier removal and replacement. Pipe shall be temporarily supported during these times.

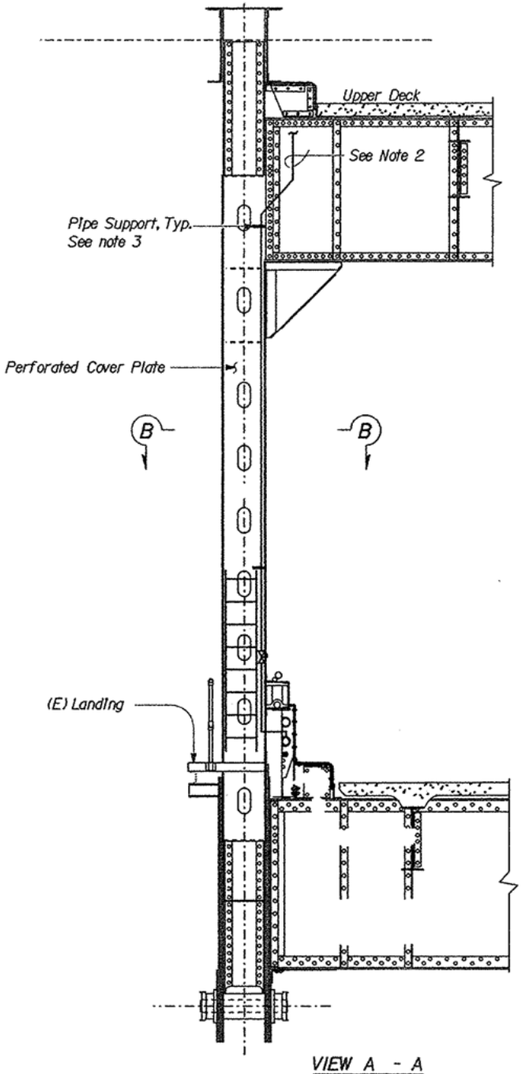


EXISTING PART TYPICAL AT "LO - UO" (SOUTH)



MODIFIED PART TYPICAL AT "LO-UO" (SOUTH)

No Scale



VIEW A - A

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES SPAN E17 TO E22

DESIGN	BY DAVID WRIGHT	CHECKED JACK WHEELER	
DETAILS	BY DAVID WRIGHT	CHECKED JACK WHEELER	
QUANTITIES	BY DAVID WRIGHT	CHECKED JACK WHEELER	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.2

SAN FRANCISCO-OAKLAND BAY BRIDGE

MECHANICAL MODIFICATIONS AT VERTICAL MEMBERS LO UO SOUTH

SHEET M-5

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)												SHEET	OF
7-31-97	9-17-97												

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:11

USERNAME => trmikesl
g:\mscmech5_.09063736

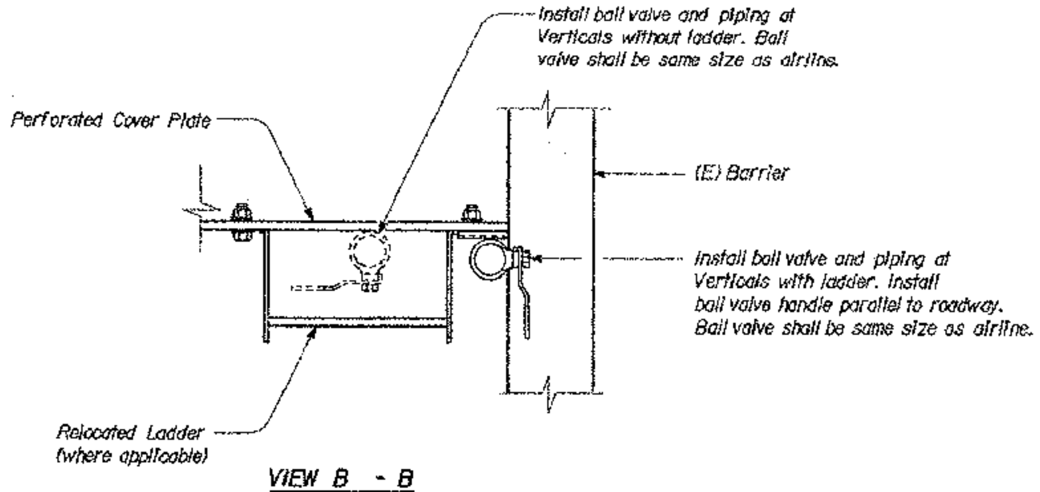
VI=1

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	52	205

REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER J. WHEELER No. M21648 Exp. 6-30-00 MECH STATE OF CALIFORNIA

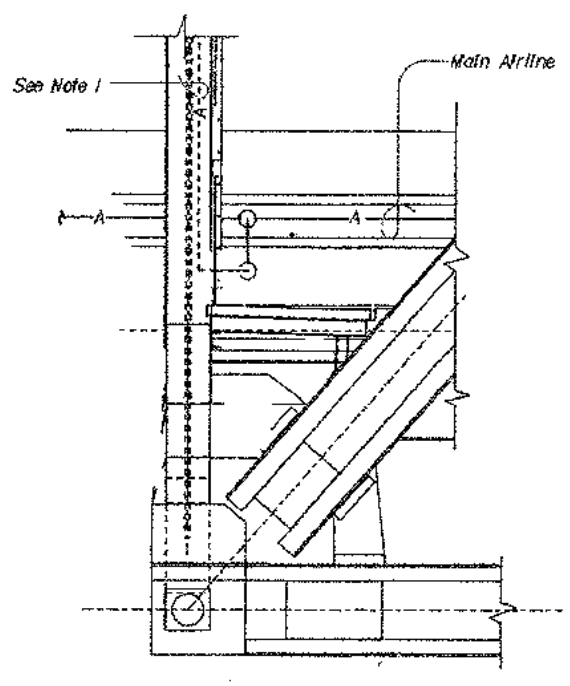
12-8-97
PLANS APPROVAL DATE



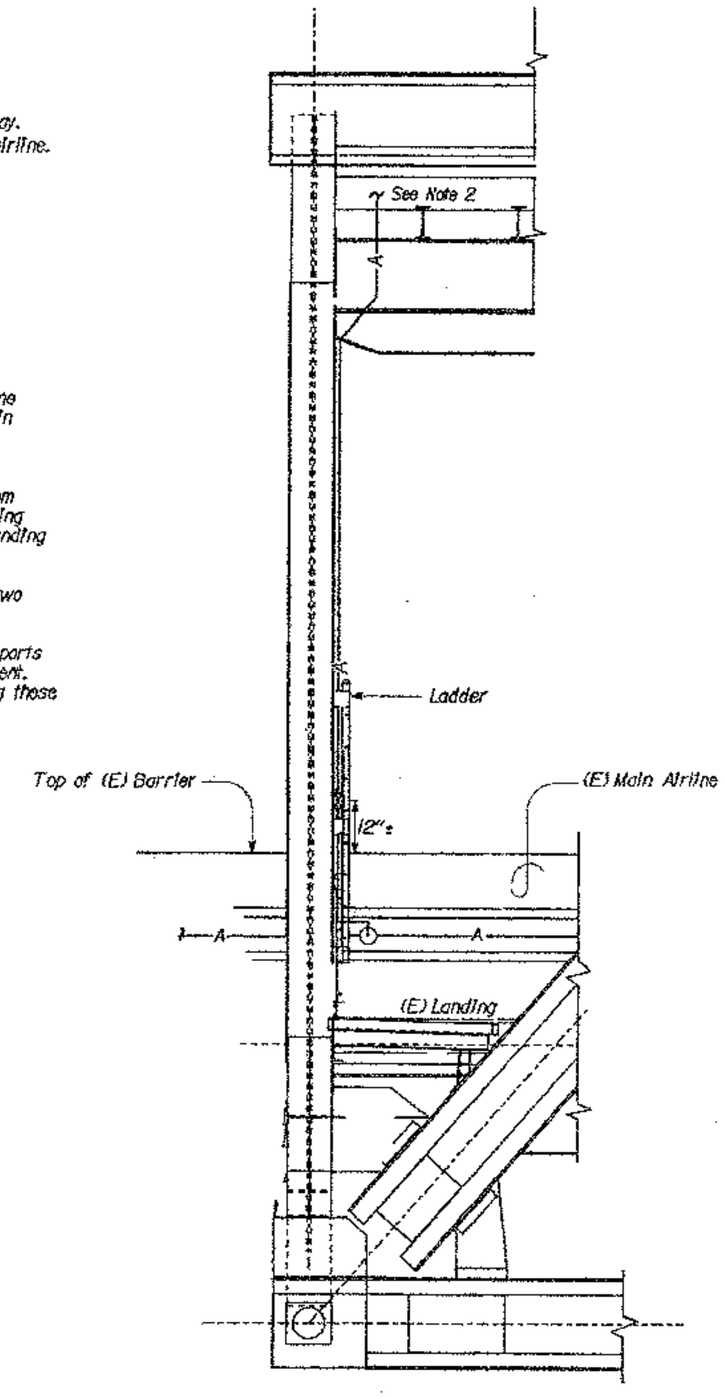
VIEW B - B

NOTES:

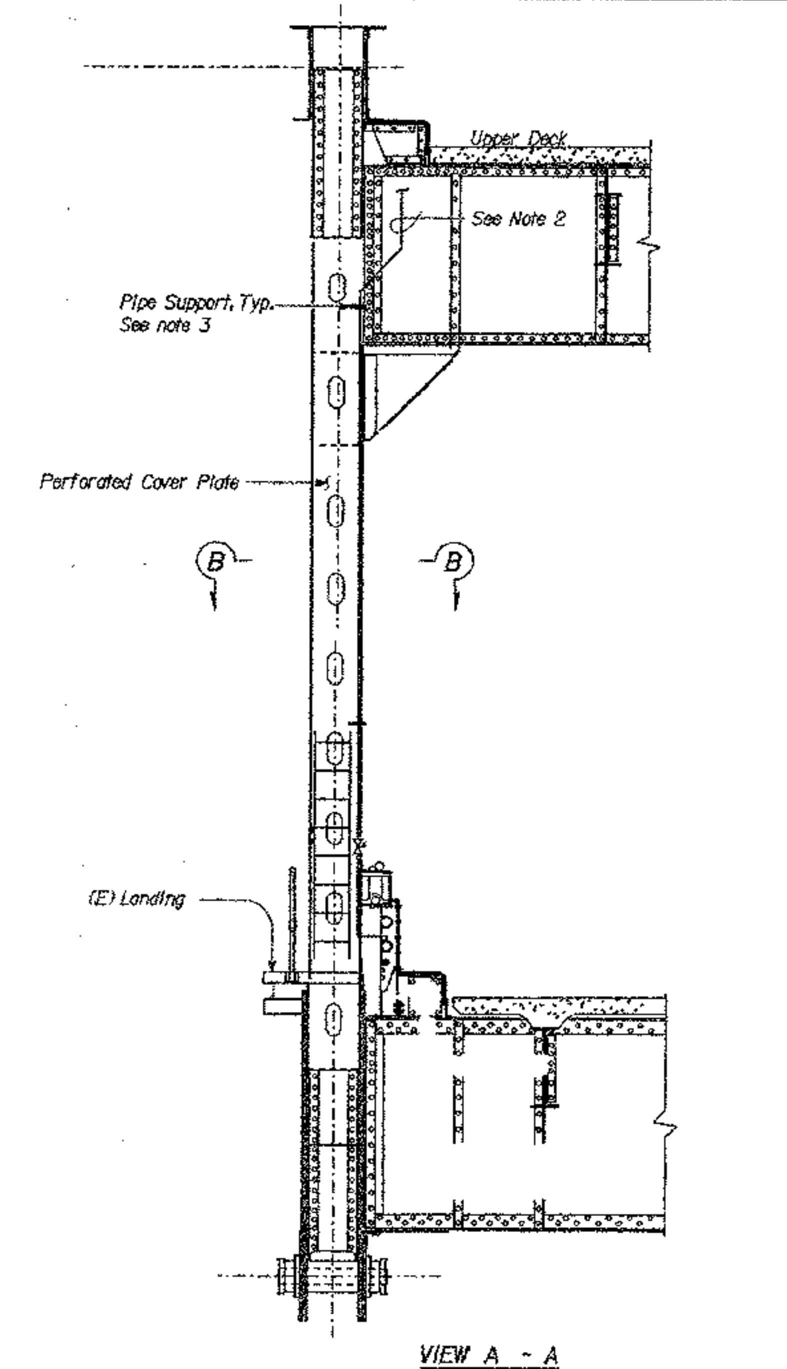
1. Remove piping and valve from main airline to upper deck. Install temporary cap at main airline until structural modifications to vertical is complete.
2. Install 1½" sch. 40 GSP and fittings from main airline to upper deck fitting. No piping shall be installed in vertical area above landing in order to keep landing clear.
3. Drill and tap perforated cover plate for two ⅜"x16, UNC bolts for each pipe support.
4. Main lines may be detached from (E) supports to facilitate barrier removal and replacement. Pipe shall be temporarily supported during these times.



EXISTING PART TYPICAL AT "L0 - U0" (SOUTH)



MODIFIED PART TYPICAL AT "L0-U0" (SOUTH)
No Scale



VIEW A - A

INTERIM SEISMIC RETROFIT PROJECT

EAST BAY 288 TRUSSES SPAN E9 TO E16

DESIGN	BY DAVID WRIGHT	CHECKED JACK WHEELER		
DETAILS	BY DAVID WRIGHT	CHECKED JACK WHEELER		
QUANTITIES	BY DAVID WRIGHT	CHECKED JACK WHEELER		

STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.5

SAN FRANCISCO-OAKLAND BAY BRIDGE

MECHANICAL MODIFICATIONS AT VERTICAL MEMBERS L0-U0 SOUTH

SHEET M-6

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

SHEET OF

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	53	205

REGISTERED ENGINEER-MECHANICAL

REGISTERED PROFESSIONAL ENGINEER J. WHEELER No. M021648 Exp. 6-30-00 MECH STATE OF CALIFORNIA

12-8-97
PLANS APPROVAL DATE

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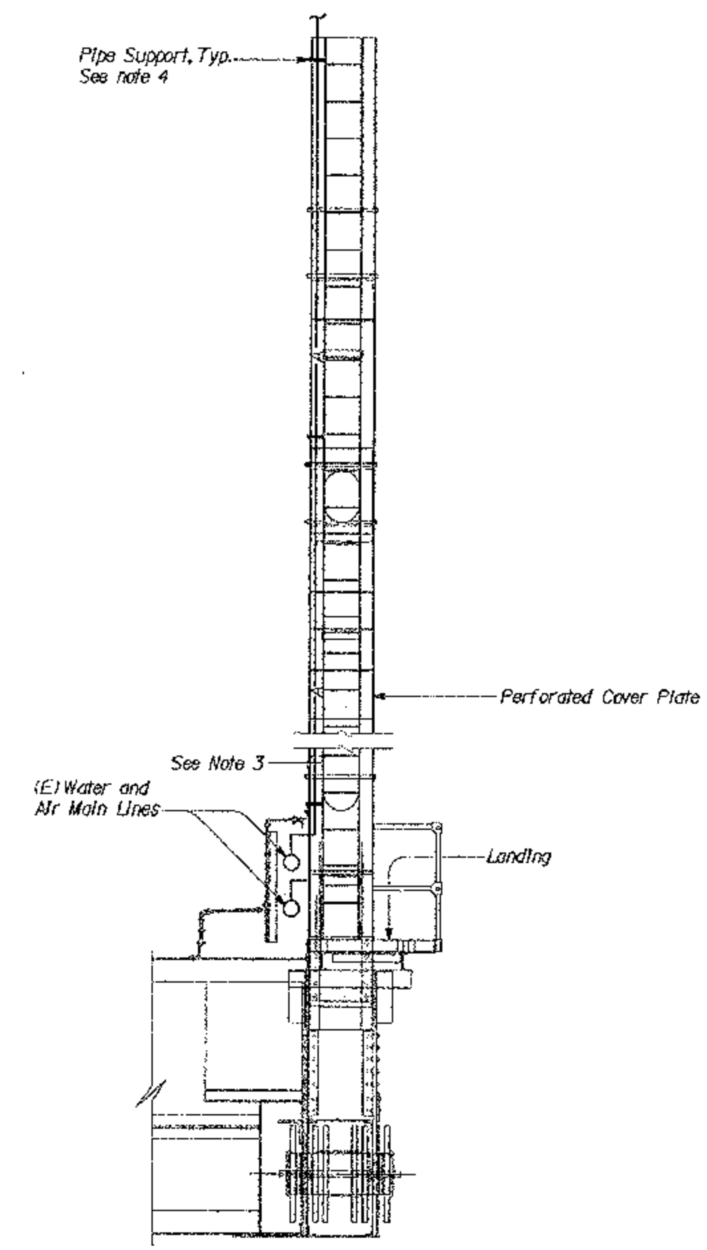
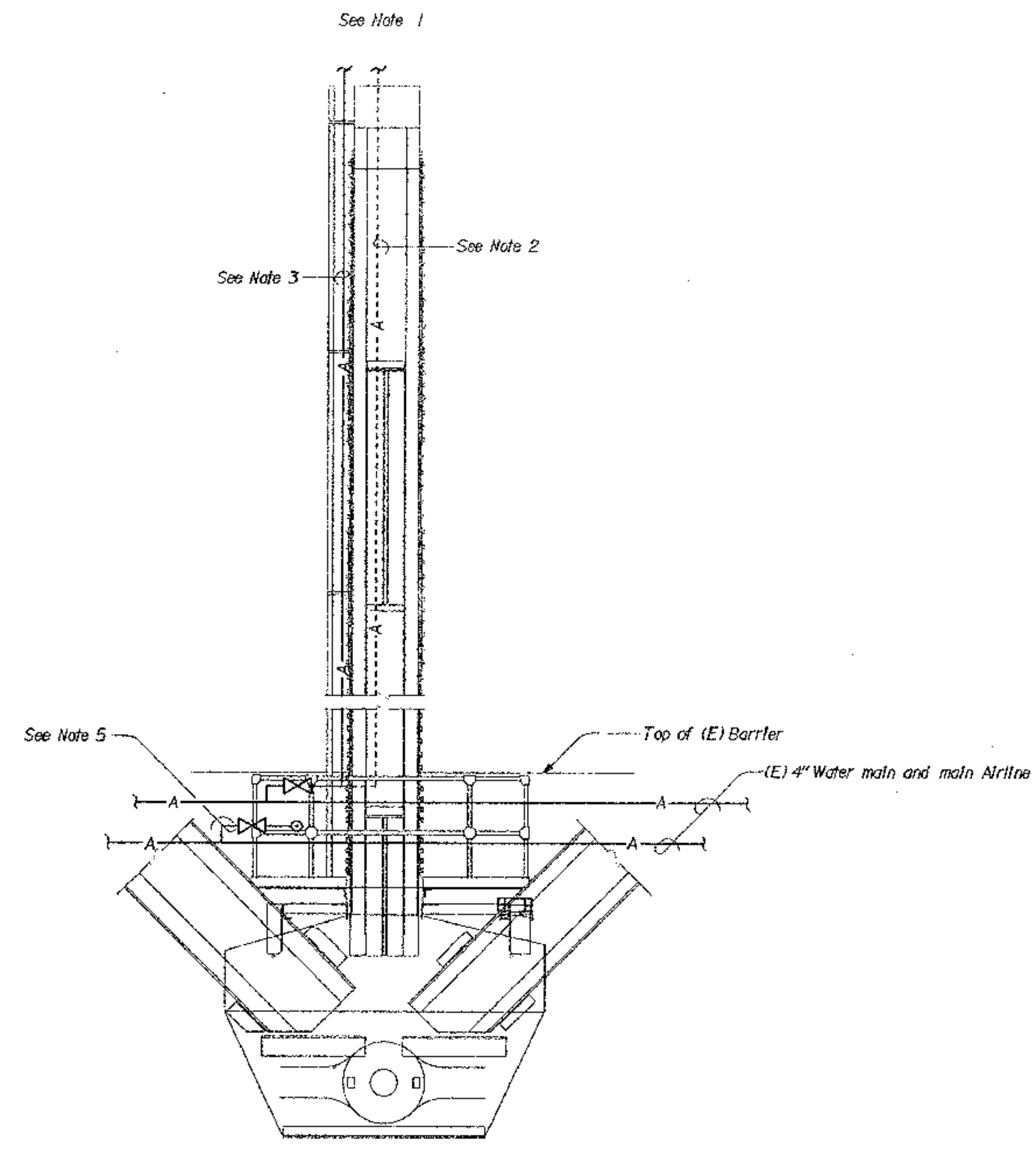


SECTION A-A



MODIFIED PARTIAL TRUSS VERTICAL L4-M4

NOTES:

1. (E) pipe through upper deck shall remain.
2. Remove piping and valve from main airline to upper deck. Install temporary cap at main airline until structural modifications to vertical are complete.
3. Install 1½" sch. 40 GSP and fittings from main airline to upper deck fitting. No piping shall be installed in area above landing.
4. Drill and tap perforated cover plate for two ⅜"x16, UNC bolts for each pipe support.
5. Remove (E) gate valve and branch piping from water main. Install temporary cap until structural modifications are complete. Install 1½" sch. 40 GSP pipe and gate valve. No piping or valve shall be installed in area above landing.
6. Main lines may be detached from (E) supports to facilitate barrier removal and replacement. Pipe shall be temporarily supported during this work.

No scale

DESIGN	BY DC Wright	CHECKED Jack Wheeler	
DETAILS	BY DC Wright	CHECKED Jack Wheeler	
QUANTITIES	BY DC Wright	CHECKED Jack Wheeler	

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
ELECTRICAL-MECHANICAL-WATER AND WASTEWATER DESIGN

BRIDGE NO. 33-0025
POST MILE 1.15

INTERIM SEISMIC RETROFIT PROJECT
EAST BAY 504 TRUSSES
SAN FRANCISCO-OAKLAND BAY BRIDGE
MECHANICAL MODIFICATIONS AT VERTICAL MEMBERS L4-M4 SOUTH

SHEET M-7

DS OSD 2139A (4/89)
FILE NO.:

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

CU 04
EA 043001

DISREGARD PRINTS BEARING EARLIER REVISION DATES
REVISION DATES (PRELIMINARY STAGE ONLY) 8-20-97 9-17-97
SHEET OF

DATE PLOTTED => 9-Dec-1997
TIME PLOTTED => 07:12

To accompany plans dated 12-8-97

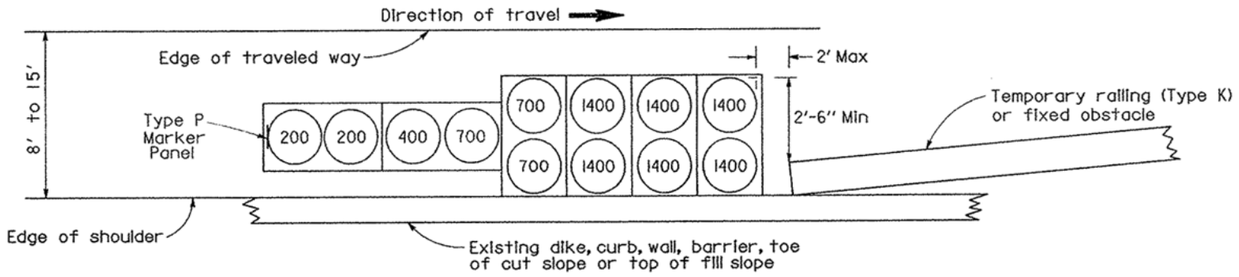
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	54	205

Donald E Fogle
REGISTERED CIVIL ENGINEER

May 29, 1996
PLANS APPROVAL DATE

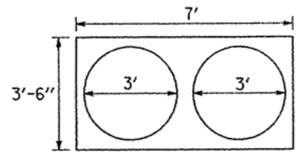
REGISTERED PROFESSIONAL ENGINEER — Donald E. Fogle — No. C34637 — Exp. 9-30-95 — CIVIL — STATE OF CALIFORNIA

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

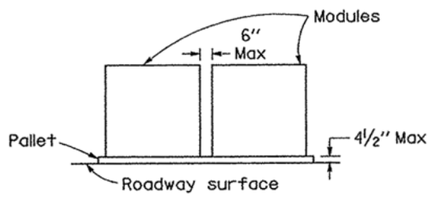


ARRAY 'TG'

(APPROACH SPEED 45 MPH OR GREATER)

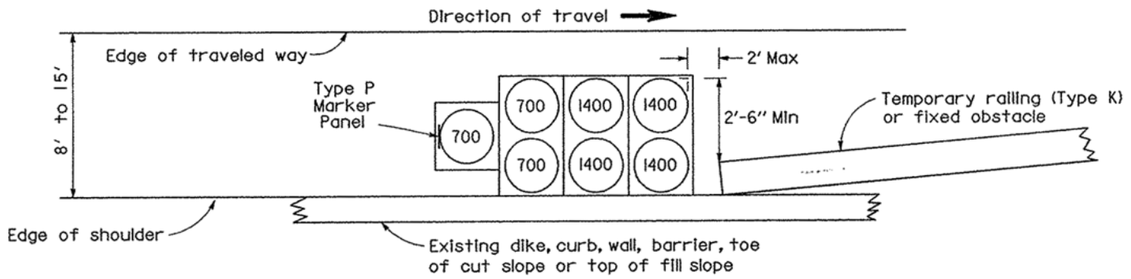


PLAN



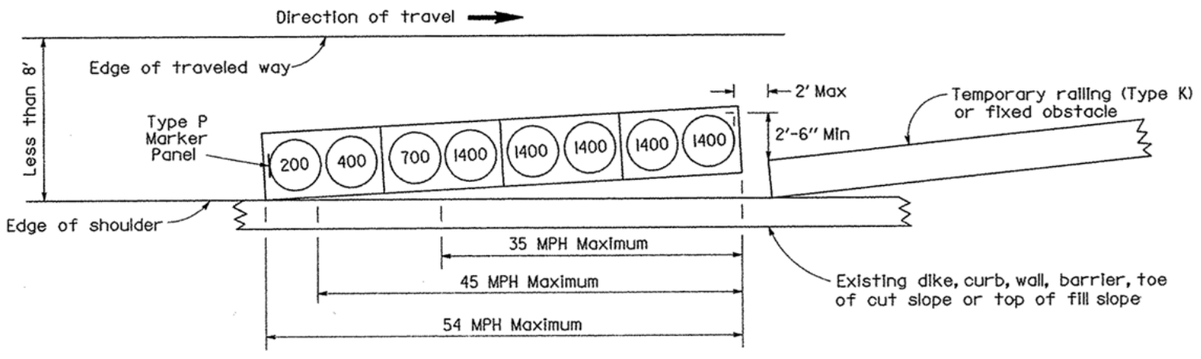
ELEVATION

CRASH CUSHION PALLET DETAIL



ARRAY 'TH'

(APPROACH SPEED 40 MPH OR LESS)
(FOR SPEEDS GREATER THAN 40 MPH USE ARRAY 'TG')



ARRAY 'TJ'

(APPROACH SPEED LESS THAN 55 MPH)

NOTES

1. (XXX) indicates module location and weight of sand in pounds for each module.
2. All sand weights are nominal.
3. A single row of modules similar to those shown for array 'TJ' shall be used only in locations where there will be traffic on one side of the temporary crash cushion array and for speeds less than 55 mph.
4. If the fixed obstacle or approach end of the temporary railing is less than 15 feet from the edge of traveled way, a temporary crash cushion is required.
5. Temporary crash cushion arrays shall not encroach on the traveled way.
6. Arrays for median shoulders shall conform to details shown on this plan for outside shoulders.
7. Place P marker panel so that the bottom of the panel rest upon the pallet and faces traffic.
8. Refer to Standard Plan A73B for marker details.
9. For approach speed of 55 MPH or greater and shoulder widths less than 8', appropriate crash cushion protection shall be provided at fixed obstacles and at approach ends of temporary railing. The specific type of crash cushion protection shall be as shown on the project plans or specified in the Special Provisions, or if not shown on the project plans, or specified in the Special Provisions, shall be as approved by the Engineer.
10. Array 'TI' has been deleted.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TEMPORARY CRASH CUSHION SAND FILLED

NO SCALE

RSP T2 DATED MAY 29, 1996 SUPERSEDES STANDARD PLAN T2 DATED JULY 1, 1992 - PAGE 116 OF THE STANDARD PLANS BOOK DATED JULY 1992.

REVISED STANDARD PLAN RSP T2

STD. PLAN RSP T2

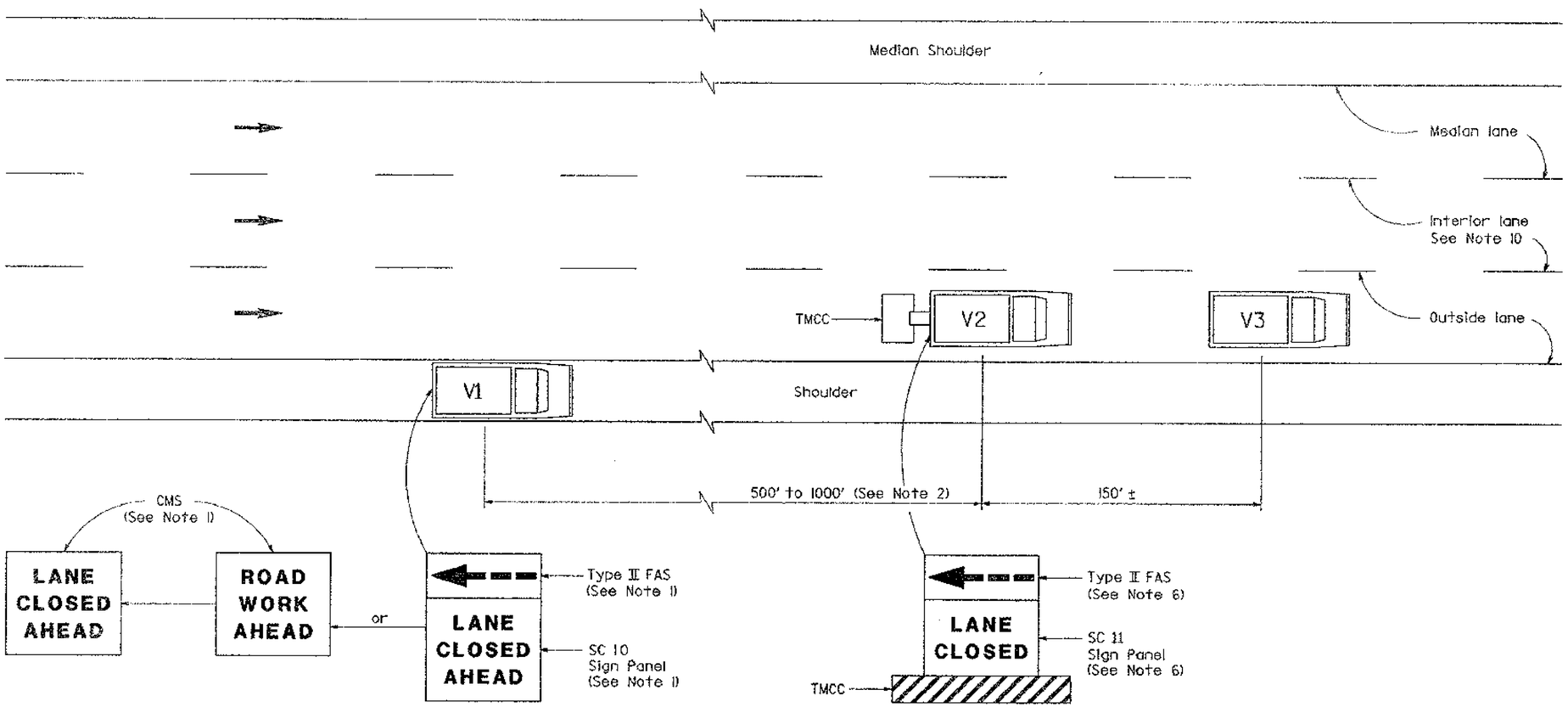
To accompany plans dated 12-8-97

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	55	205

REGISTERED CIVIL ENGINEER

June 13, 1994
PLANS APPROVAL DATE

P. Lowden Jr. No. 12284 Exp. 3-31-97 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA



MOVING LANE CLOSURE ON MEDIAN OR OUTSIDE LANE OF MULTILANE HIGHWAYS

NOTES

1. Either the SC 10 sign panel shown or a changeable message sign shall be mounted on the rear of sign vehicle V1. A Type II flashing arrow sign shall be mounted on the rear of sign vehicle V1 and used with the SC 10 sign panel. A Type II flashing arrow sign will not be required with the changeable message sign provided the flashing arrow sign symbol may be displayed on the changeable message sign board. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "LANE CLOSED AHEAD" message and then the flashing arrow sign symbol. For median lane closure, the flashing arrow sign symbol shall be reversed with the arrowhead on the right.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
3. A minimum sight distance of 1500 feet should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500 feet.
5. Vehicle-mounted sign panels shall be Type III or IV reflectorized sheeting, black on white or black on orange with 6 inch minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall weigh between 11,000 and 18,000 pounds and shall be equipped with a truck-mounted crash cushion. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2. For median lane closure, the flashing arrow sign symbol shall be reversed with the arrowhead on the right.
7. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. Where sufficient shoulder width is not available and sign vehicle V1 would encroach upon the traveled way of the adjacent traffic lane during lane closures or where workers would be on foot in the work area, a stationary type lane closure (Standard Plan T10, T11, and so on, as applicable) shall be used instead of this plan.
10. For moving lane closure on interior lane of multilane highways, see Standard Plan T16.

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
FAS	Flashing Arrow Sign
CMS	Changeable Message Sign
TMCC	Truck-Mounted Crash Cushion
→	Direction of Travel

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

NO SCALE

NEW STANDARD PLAN NSP T15

STD. PLAN NSP T15

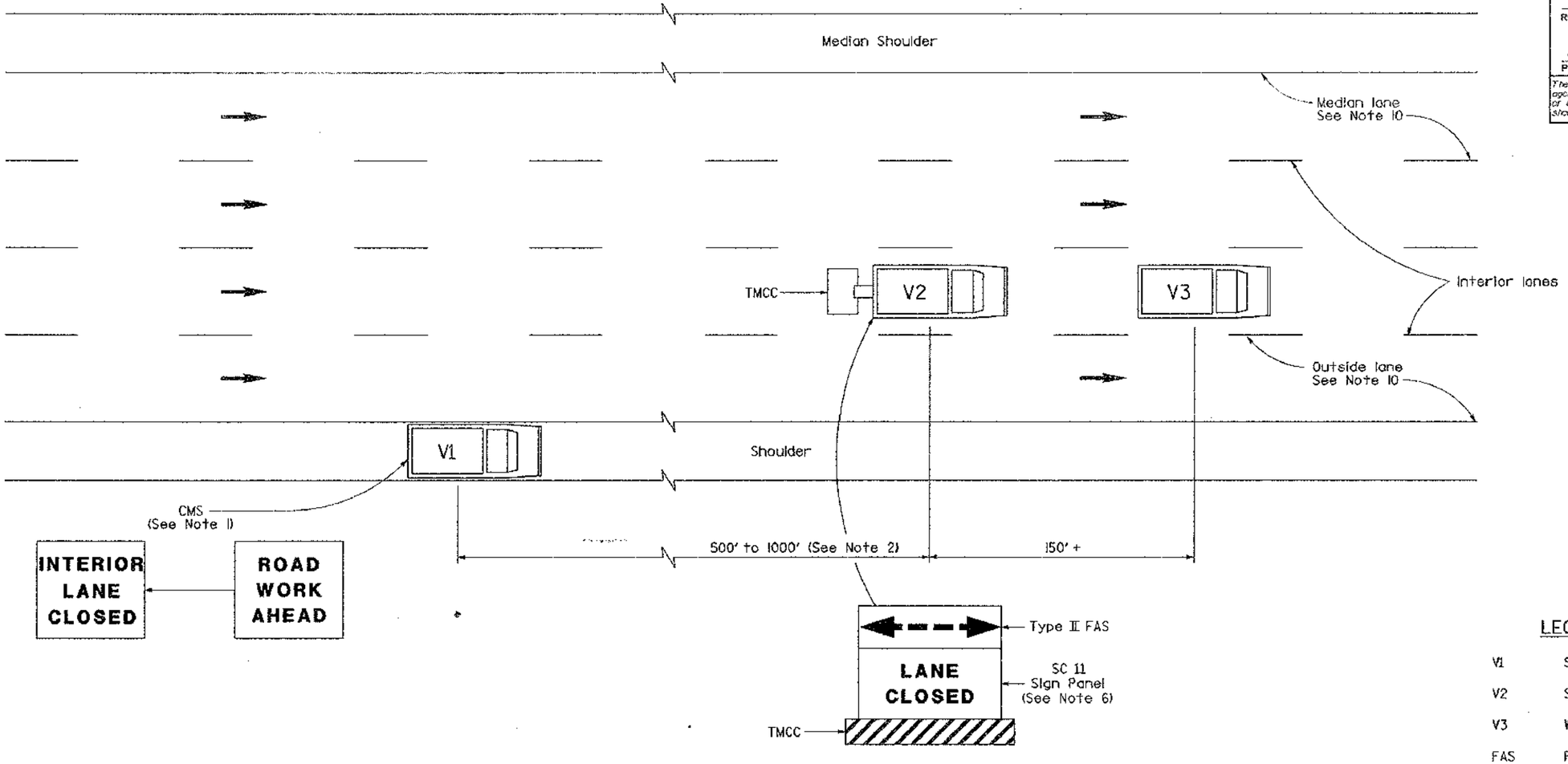
DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Alq	80	7.8/8.9, 0.0/1.1	56	205

REGISTERED CIVIL ENGINEER

June 13, 1994
PLANS APPROVAL DATE

P. Lowden Jr. No. 12284 Exp. 3-31-97 CIVIL — REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA

To accompany plans dated 12-8-97



MOVING LANE CLOSURE ON INTERIOR LANE OF MULTILANE HIGHWAYS

LEGEND

V1	Sign Vehicle
V2	Shadow Vehicle
V3	Work/Application Vehicle
FAS	Flashing Arrow Sign
CMS	Changeable Message Sign
TMCC	Truck-Mounted Crash Cushion
→	Direction of Travel

NOTES

1. A changeable message sign shall be mounted on the rear of sign vehicle V1. The changeable message sign shall be sequenced to show the "ROAD WORK AHEAD" message first, followed by the "INTERIOR LANE CLOSED" message. The message "CENTER LANE CLOSED" may be used in place of the "INTERIOR LANE CLOSED" message.
2. If traffic queues develop, sign vehicle V1 should be positioned upstream from the end of queue.
3. A minimum sight distance of 1500 feet should be provided in advance of sign vehicle V1.
4. Sign vehicle V1 should remain at the beginning of horizontal or vertical curves until the other vehicles (V2 and V3) are far enough beyond the curve to resume the minimum sight distance of 1500 feet.
5. Vehicle-mounted sign panels shall be Type III or IV reflectorized sheeting, black on white or black on orange with 6 inch minimum series D letters per Caltrans sign specifications.
6. Shadow vehicle V2 shall weigh between 11,000 and 18,000 pounds and shall be equipped with a truck-mounted crash cushion. The sign panel shown and a Type II flashing arrow sign shall be mounted on the rear of shadow vehicle V2.
7. All vehicles used for lane closures shall be equipped with two-way radios and the vehicle operators shall maintain communication during the work or application operation.
8. All vehicles shall be equipped with flashing or rotating amber lights.
9. Where sufficient shoulder width is not available and sign vehicle V1 would encroach upon the traveled way of the adjacent traffic lane during lane closures or where workers would be on foot in the work area, a stationary type lane closure (Standard Plan T10, T11, and so on, as applicable) shall be used instead of this plan.
10. For moving lane closure on median or outside lanes of multilane highways, see Standard Plan T15.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

TRAFFIC CONTROL SYSTEM FOR MOVING LANE CLOSURE ON MULTILANE HIGHWAYS

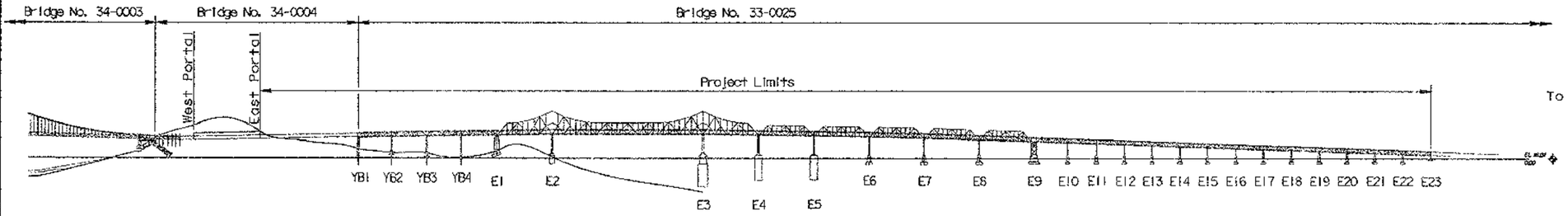
NO SCALE

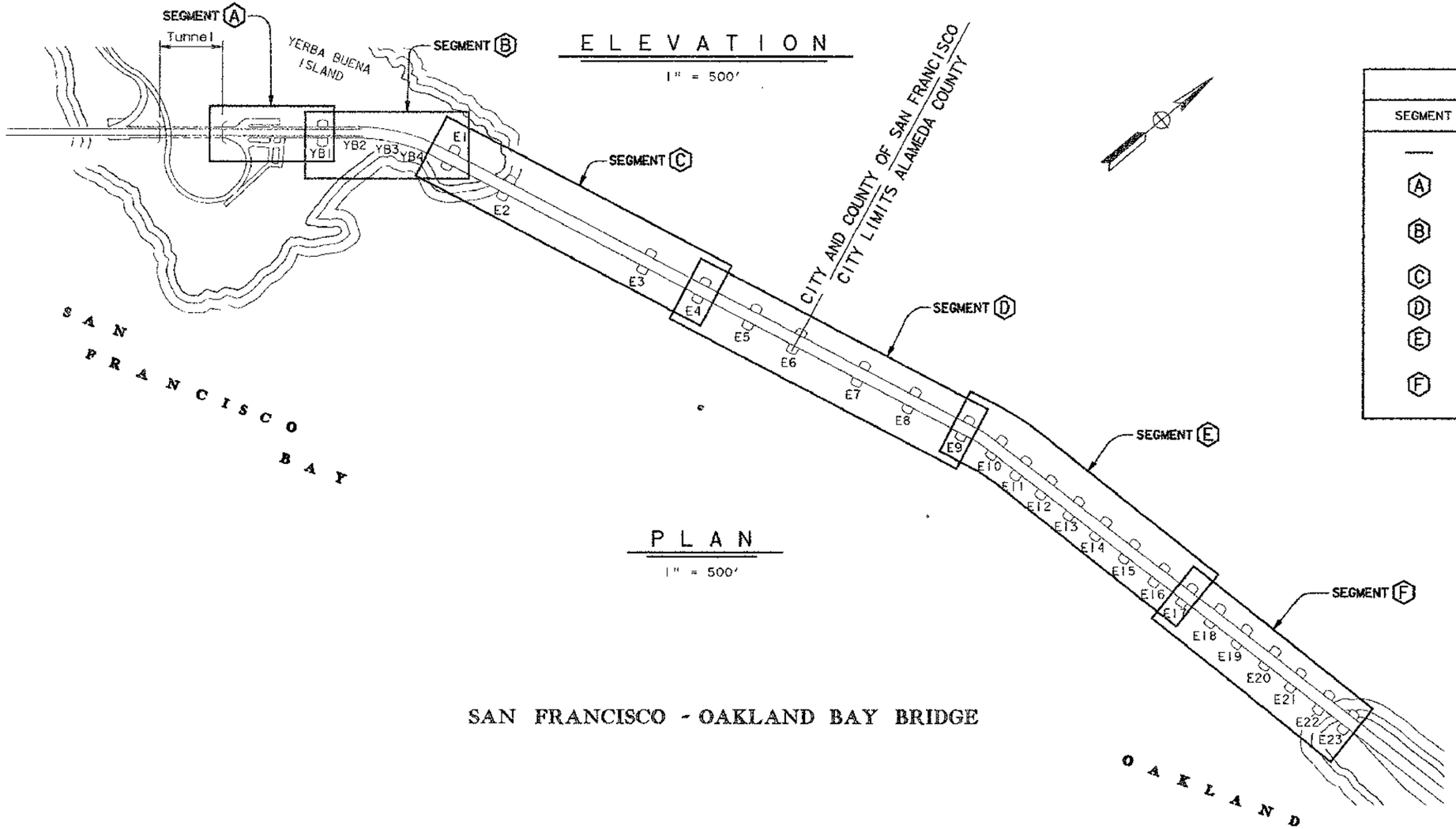
NEW STANDARD PLAN NSP T16

STD. PLAN NSP T16

DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	57	205

To accompany plans dated 12-8-97





ELEVATION

1" = 500'

PLAN

1" = 500'

INDEX OF SHEETS	
SEGMENT	TITLE/LOCATION
—	PROJECT PLAN
(A)	EAST BAY YERBA BUENA ISLAND VIADUCT
(B)	EAST BAY 288 TRUSSES YERBA BUENA ISLAND
(C)	EAST BAY CANTILEVER TRUSS
(D)	EAST BAY 504 TRUSSES
(E)	EAST BAY 288 TRUSSES SPAN E9 TO SPAN E16
(F)	EAST BAY 288 TRUSSES SPAN E17 TO SPAN E22

SAN FRANCISCO - OAKLAND BAY BRIDGE

DESIGN ENGINEER

DESIGN	BY	CHECKED					
DETAILS	BY	CHECKED	LAYOUT	BY B. ZEGHLIN 4-97	CHECKED J. SUNDSTROM 5-97		
QUANTITIES	BY	CHECKED	SPECIFICATIONS	BY	PLANS AND SPECS COMPARED		

DS OSD 2130 (CADD 3/95)

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS 0 1 2 3

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
STRUCTURE DESIGN
TOLL BRIDGE SPECIAL ANALYSIS

CU 04
EA 043001

BRIDGE NO. 34-0004 and 33-0025
POST MILE Varies

DISREGARD PRINTS BEARING EARLIER REVISION DATES →

REVISION DATES (PRELIMINARY STAGE ONLY)

INTERIM SEISMIC RETROFIT PROJECT

SAN FRANCISCO-OAKLAND BAY BRIDGE

PROJECT PLAN

SHEET 1 OF 1

DATE PLOTTED => 9-DEC-1997
TIME PLOTTED => 07:58

USERNAME => trienard
oappl_09075734

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.	DIST.	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
	04	SF, Ala	80	7.8/8.9, 0.0/1.1	2	205

To accompany plans dated 12-8-97

GENERAL ROAD WORK

MISCELLANEOUS

- ■ A10A Abbreviations
- ■ A10B Symbols
- □ A20A Pavement Markers and Traffic Lines, Typical Details
- ■ A20B Pavement Markers and Traffic Lines, Typical Details
- □ A20C Pavement Markers and Traffic Lines, Typical Details
- □ *RSP A20D Pavement Markers and Traffic Lines, Typical Details*
- □ *RSP A24A Pavement Markings- Arrows*
- □ A24B Pavement Markings- Arrows
- □ *RSP A24C Pavement Markings- Symbols and Numerals*
- □ A24D Pavement Markings- Words
- □ A24E Pavement Markings- Words and Crosswalks
- □ A35A Portland Cement Concrete Paving Details
- □ A62A Excavation and Backfill- Miscellaneous Details
- □ A62B Limits of Payment for Excavation and Backfill Bridge- Surcharge and Wall
- □ A62C Limits of Payment for Excavation and Backfill- Bridge
- □ A62D Excavation and Backfill- Concrete Pipe Culverts
- □ A62E Excavation and Backfill- Cast-In-Place Reinforced Concrete Box and Arch Culverts
- □ A62F Excavation and Backfill- Metal and Plastic Culverts
- □ A73A Markers
- ■ A73B Markers
- ■ A73C Delineators, Channelizers and Barricades
- □ A74 Survey Monuments
- □ A75A Concrete Barrier Type 50
- □ *RSP A75B Concrete Barrier Type 50E*
- □ A75C Headlight Glare Screen
- □ A77A Metal Beam Guard Railing
- □ A77B Metal Beam Guard Railing- Standard Hardware
- □ A77C Metal Beam Guard Railing- Posts and Blocks
- □ *RSP A77D Guard Rail Flares*
- □ *RSP A77E Guard Rail Flares*
- □ *RSP A77F Metal Beam Guard Railing- Miscellaneous Details*
- □ *RSP A77G Guard Rail End Anchors (Breakaway)*
- □ A77H Guard Rail End Anchors (Breakaway Hardware)
- □ A77I Barrier and Guard Rail End Anchors
- □ A77J Guard Rail Connections to Bridge Rails, Retaining Walls and Abutments
- □ A77K Guard Rail Connections to Bridge Sidewalks and Curbs
- □ A78A Thrie Beam Barrier
- ■ A78B Thrie Beam Barrier- Standard Hardware and Miscellaneous Details
- □ *RSP A78C Thrie Beam Barrier-End Anchors*
- ■ A78D Thrie Beam Barrier Connection to Concrete Barrier Type 50
- □ A78E Thrie Beam Barrier Connections to Bridge Rails
- □ A78F Thrie Beam Barrier Connections to Bridge Curbs, Retaining Walls and Abutments
- □ A80 Thrie Beam Barrier Emergency Passageway
- □ A81 Crash Cushion, Sand Filled
- □ A83 Portable Scale Pad and Approach Slab Details
- □ A85 Chain Link Fence
- □ A86 Barbed Wire and Wire Mesh Fences
- □ *RSP A87 Curbs, Dikes and Driveways*

CRIB WALLS

- □ C7A Reinforced Concrete Crib Wall- Battered Walls- Types A, B and C
- □ C7B Reinforced Concrete Crib Wall- Battered Walls- Types D, E and F
- □ C7C Reinforced Concrete Crib Wall- Vertical Walls- Types A, B and C
- □ C7D Reinforced Concrete Crib Wall- Vertical Walls- Types D, E and F
- □ C7E Reinforced Concrete Crib Wall- Types A, B, C, D, E and F Header and Stretcher Details
- □ C7F Design Data for Reinforced Concrete Crib Wall Foundation Pressure-Battered Wall
- □ C7G Reinforced Concrete Crib Wall Foundation Pressure- Vertical Wall
- □ C8A Steel Crib Wall- Construction Details
- □ C8B Steel Crib Wall- Design Data
- □ C8C Steel Crib Wall- Design Data
- □ C9A Timber Crib Wall- Types A, B, C and D
- □ C9B Timber Crib Wall- Types A, B, C and D Design Data

DRAINAGE

- □ D72 Drainage Inlets
- □ D73 Drainage Inlets
- □ D74A Drainage Inlets
- □ D74B Drainage Inlets
- □ D74C Drainage Inlets Details
- □ D75 Pipe Inlet
- □ D77A Grate Details
- □ D77B Bicycle Proof Grate Details
- □ D77C Alternative Hinged Cover for Type OL and OS Inlets and Trash Rack for Type OCP Inlet
- □ D78 Gutter Depressions
- □ D79 Precast Reinforced Concrete Pipe- Direct Design Method
- □ D80 Cast-In-Place Reinforced Concrete Single Box Culvert
- □ D81 Cast-In-Place Reinforced Concrete Double Box Culvert
- □ D82 Cast-In-Place Reinforced Concrete Box Culvert Miscellaneous Details
- □ D84 Box Culvert Wingwalls- Types A, B, C
- □ D85 Box Culvert Wingwalls- Types D and E
- □ D86A Box Culvert Warped Wingwalls
- □ D86B Pipe Culvert Headwalls, Endwalls and Warped Wingwalls
- □ D86C Arch Culvert Headwalls, Endwalls and Warped Wingwalls
- □ D87A Overside Drains
- □ D87B Overside Drains
- □ D87C Underdrains
- □ D88 Construction Loads on Culverts
- □ D88A Strut Details for Structural Steel Plate Pipes, Arches, and Vehicular Undercrossings
- □ D89 Pipe Headwalls
- □ D90 Pipe Culvert Headwalls, Endwalls and Wingwalls- Types A, B and C
- □ D93A Pipe Riser Connections
- □ D93B Drainage Inlet Riser Connections
- □ D93C Pipe Riser with Debris Rack Cage
- □ D94A Metal and Plastic Flared End Sections
- □ D94B Concrete Flared End Sections
- □ D95 Concrete Arch Culverts
- □ D97A Corrugated Metal Pipe Coupling Details No. 1- Annular Coupling Band Bar and Strap and Angle Connectors
- □ D97B Corrugated Metal Pipe Coupling Details No. 2- Hat Band Coupler and Flange Details
- □ D97C Corrugated Metal Pipe Coupling Details No. 3- Helical and Universal Couplers
- □ D97D Corrugated Metal Pipe Coupling Details No. 4- Hugger Coupling Bands
- □ D97E Corrugated Metal Pipe Coupling Details No. 5- Standard Joint
- □ D97F Corrugated Metal Pipe Coupling Details No. 6- Positive Joint
- □ D97G Corrugated Metal Pipe Coupling Details No. 7- Positive Joints and Downdrains
- □ D97H Reinforced Concrete Pipe or Non-Reinforced Concrete Pipe Standard and Positive Joints
- □ D98A Slotted Corrugated Steel Pipe Drain Details
- □ D98B Slotted Corrugated Steel Pipe Drain Details
- □ D99A Structural Section Drainage System Details
- □ D99B Edge Drain Outlet and Vent Details
- □ D99C Edge Drain Cleanout and Vent Details
- □ D99D Cross Drain Interceptor Details

HIGHWAY PLANTING

- □ H1 Planting and Irrigation- Abbreviations
- □ H2 Planting and Irrigation- Symbols
- □ H3 Planting and Irrigation- Details
- □ H4 Planting and Irrigation- Details
- □ H5 Planting and Irrigation- Details
- □ H6 Planting and Irrigation- Details
- □ H7 Planting and Irrigation- Details
- □ *RSP H8 Planting and Irrigation Details*

TEMPORARY FACILITIES

- ■ T1 Temporary Crash Cushion, Sand Filled
- ■ *RSP T2 Temporary Crash Cushion, Sand Filled*
- ■ T3 Temporary Railing (Type K)
- □ T4 Temporary Traffic Screen
- ■ T10 Traffic Control System for Lane Closure on Freeways and Expressways
- □ T10A Traffic Control System for Lane and Complete Closures on Freeways and Expressways
- □ T11 Traffic Control System for Lane Closure on Multilane Conventional Highways
- □ T12 Traffic Control System for Lane Closure on Multilane Conventional Highways
- □ T13 Traffic Control System for Lane Closure on Two Lane Conventional Highways
- □ T14 Traffic Control System for Ramp Closures

BRIDGE

- □ B0-1 Bridge Details
- □ B0-3 Bridge Details
- □ B0-5 Bridge Details
- □ B0-13 Bridge Details
- □ B2-3 16'' Cast-In-Drilled-Hole Concrete Pile
- □ B2-5 Pile Details- Class 45 and Class 70
- □ B2-8 Pile Details- Class 45C and Class 70C
- □ B2-9 Load Test Anchor Pile Details
- □ B3-1 Retaining Wall- Type 1, H=4'-30'
- □ B3-2 Retaining Wall- Type 1, H=32'-36'
- □ B3-3 Retaining Wall- Type 1A
- □ B3-4 Retaining Wall- Type 2
- □ B3-5 Counterfort Retaining Wall- Type 3
- □ B3-6 Counterfort Retaining Wall- Type 4
- □ B3-7 Retaining Wall- Type 5
- □ B3-8 Retaining Wall Details No. 1
- □ *RSP B3-9 Retaining Wall Details No.2*
- □ B3-11 Retaining Wall Type 6-6'-0'' Maximum
- □ B6-1 T- Beam Details
- □ B6-10 Utility Openings, T- Beam
- □ B6-21 Joint Seals (Maximum Movement Rating = 2'')
- □ B7-1 Box Girder Details
- □ B7-5 Deck Drains
- □ B7-6 Deck Drains- Type D-1 and D-2
- □ B7-10 Utility Opening- Box Girder
- □ B7-11 Utility Details
- □ B8-5 Cast-In-Place Prestressed Girder Details
- □ B11-7 Chain Link Railing
- □ B11-47 Cable Railing
- □ B11-51 Tubular Hand Railing
- □ B11-52 Chain Link Railing Type 7
- □ B11-53 Concrete Barrier Type 25
- □ B11-54 Concrete Barrier Type 26
- □ B13-1 Slope Protection Detail No. 1
- □ B13-2 Slope Protection Detail No. 2
- □ B14-1 Structural Steel Plate Vehicular Undercrossing
- □ B14-3 Communication and Sprinkler Control Conduit (Conduit less than 4'' Diameter)
- □ B14-4 Water Supply Line (Bridge) (Pipe less than 4'' Diameter)
- □ B14-5 Water Supply Line (Details) (Pipe less than 4'' Diameter)

ROADSIDE SIGNS

- ■ RS1 Roadside Signs, Typical Installation Details No. 1
- ■ RS2 Roadside Signs, Wood Posts, Typical Installation Detail No. 2
- □ RS3 Roadside Signs, Laminated Box Wood Posts, Typical Installation Details No. 3
- ■ RS4 Roadside Signs, Typical Installation Detail No. 4

SHEET 1 OF 2

STANDARD PLANS LIST

(July, 1992 Edition)

Revised August 28, 1996

DATE PLOTTED => 08-Dec-1997
TIME PLOTTED => 14:29

DIST	COUNTY	ROUTE	POST MILES TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
04	SF, Ala	80	7.8/8.9, 0.0/1.1	40	205

B. Golemohammadi 10-9-97
REGISTERED ELECTRICAL ENGINEER

12-8-97
PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — B. Golemohammadi — No. 15283 — Exp. 3-31-01 — ELECT — STATE OF CALIFORNIA

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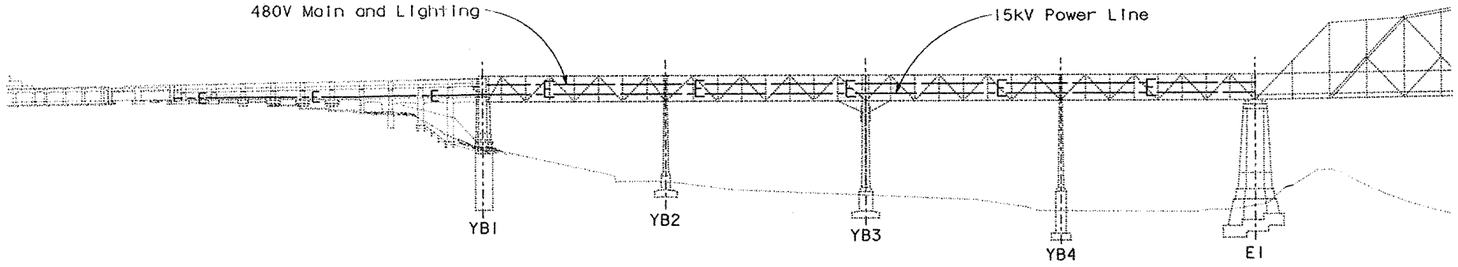
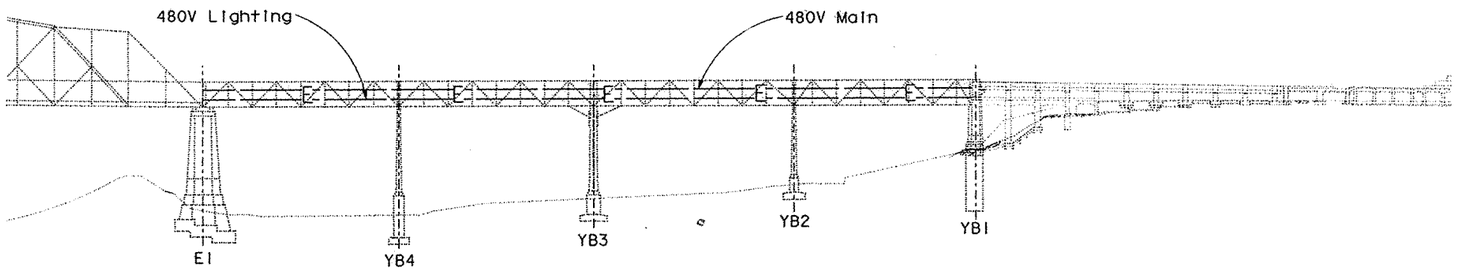


ELEVATION (SOUTH)



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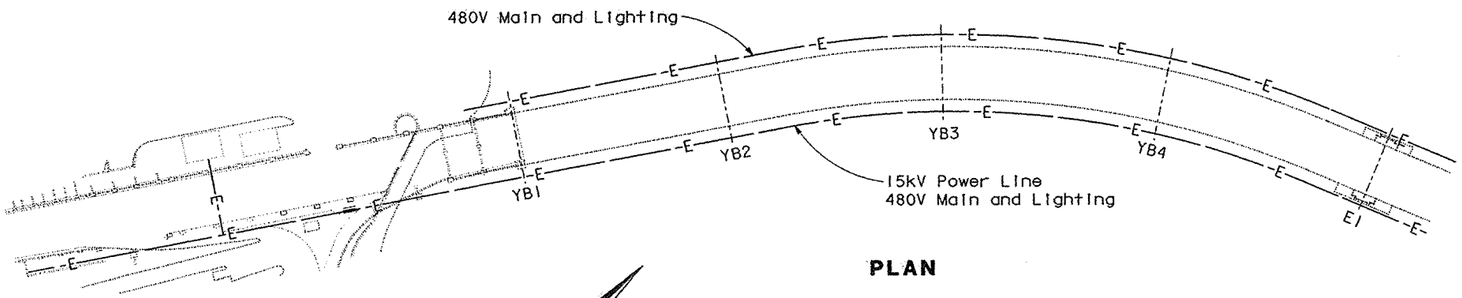

PLAN

This Plan Accurate for Electrical Work Only

ELECTRICAL FACILITIES (SEISMIC RETROFIT)
HIGH RISK ELECTRICAL FACILITIES FROM PIER YB1 to PIER E1

SCALE: 1'' = 100'

E-28

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION
Caltrans
ELECTRICAL
PROJECT ENGINEER: BEHZAD GOLEMOHAMMADI
CALCULATED/DESIGNED BY: BG
CHECKED BY: WK
DATE: REVISED BY / DATE REVISED

LAST REVISION: DATE PLOTTED => 08-Dec-1997
10-23-97 TIME PLOTTED => 16:37

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2 3

USERNAME => trphils
DGN FILE => [ESC-OE]404300u28.dgn

CU 04259

EA 043001